For Whom the Cruiser Rolls: A Retrospective Analysis of Factors Relating to Recidivism in a Sample of Graduates from a Court-Ordered Alcohol Education and Awareness Program

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Abstract

This study investigated, retrospectively, whether recidivism in a sample of court-ordered graduates of an alcohol education and awareness program could be predicted. This alcohol education program was based on adult education principles and was philosophically akin to the thoughts of Drs. Jack Mezirow, Stephen Brookfield, and Patricia Cranton. Data on the sample of 214 Halton IDEA (Impaired Driver Education and Awareness) graduates were entered into a spread sheet. Descriptive statistics were generated. Each of the 214 program graduates had taken several tests during the course of the IDEA program. These tests measured knowledge, attitude about impaired driving, and degree of alcohol involvement. Test scores were analyzed to determine whether those IDEA graduates who recidivated differed in any measurable way from those who had no further criminal convictions after a period of at least three years. Their criminal records were obtained from the Canadian Police Information Centre (CPIC). Those program graduates who reoffended were compared to the vast majority who did not reoffend. Results of the study indicated that there was no way to determine who would recidivate from the data that were collected. Further studies could use a qualitative model. Follow-up interviews could be used to determine what impact, if any, attendance at the IDEA program had on the life of the graduates.

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CHAPTER ONE: THE PROBLEM

Introduction

The Halton Impaired Driver Education and Awareness (IDEA) program is an alcohol education and intervention program that consists of seven 2 1/2 hour group sessions and a 30-minute concluding, or "exit," individual interview. This program is offered for residents of Halton Region, a Region with a population of 281,000 individuals as of the 1990 census; Halton has a mixture of cities (Burlington and Oakville), towns (Milton and Halton Hills) and rural areas such as Campbellville and Nassageweya. The IDEA program has been in operation since the fall of 1984.

Residents of Halton who are convicted of alcohol-related offenses, such as impaired driving and assault, can be ordered to participate in the program as a condition of their probation or parole. The IDEA program is used as an add-on to other sanctions, such as a fine, license suspension, and jail sentences. It is a tertiary prevention/intervention program in that one of the program goals is to reduce recidivism. The IDEA program assists participants in understanding the role that alcohol use plays in their lives and the part played by alcohol in their present circumstances. While information about the physical, emotional, and behavioral effects of alcohol and other drugs is included in the program, it is through the use of small group activities and homework that the majority

of the learning takes place, and that provides the greatest potential for behavioral change.

Group size is limited to 15 and the program is designed on adult education principles. Only a minority of the people convicted of alcohol- related offenses in Halton are sentenced to the IDEA program. It is considered by some to be worse than jail in that one can arrive to do his or her jail sentence even after having just been drinking, which is prohibited in the IDEA program conditions. Furthermore, in jail, one can sit and play cards or watch television. The IDEA program is highly participatory. Since the first IDEA class in January, 1985, more than 600 people have graduated.

This study examined only those persons convicted of alcohol-related traffic offenses such as impaired driving, driving with more than 80 mg. of alcohol in 100 ml. of blood or " Over 80," or refusing the breathalyser, all of which carry the same penalties. More specifically, this study examined only those people for whom at least three years have passed since the offence that brought them in the IDEA program. This three-year span allowed sufficient time for them to reappear in the criminal justice system if they were going to do so. This was heterogeneous group ranging in age from 16 to 70; their level of education varied from Grade six to Bachelor degree and higher. Females comprised only nine percent of the total IDEA population. My female clients reported that if they were in a car with a male

acquaintance the male was much more likely to insist on driving, even if only he had been drinking.

Many of my clients were first offenders; some had at least one prior alcohol-related offence before being sent to the IDEA program. Even the first offenders had presented some alcohol-related sentencing trigger to the judge or crown attorney, such as a high blood alcohol concentration (BAC), or being involved in a crash, or having injured or killed someone. The judge wanted them to examine their drinking so that the behaviour would not be repeated.

Problem Statement

The purpose of this study is to examine whether the likelihood of recividism can be predicted using information from participants' course files and from the Canadian Police Information Centre (CPIC). Demographic measures include age and gender. The study attempts to identify factors which can be correlated with recidivism.

The research questions are:

What changes in Knowledge Inventory, Opinion Survey, and Behavioral Intentions occurred over the course of the program?

Can the age of the IDEA participant be used to predict course Knowledge Inventory, behavioral intentions or Opinion Survey?

How do the Knowledge Inventory scores compare between the IDEA participants who had no further drinking/driving-related convictions within three years of the course and those who did?

How do the Behavioral Intentions scores compare between the IDEA participants who had no further drinking/driving-related convictions within three years of the course and those who did?

How do the Opinion Survey scores compare between the IDEA participants who had no further drinking/driving-related convictions within three years of the course and those who did?

How do clients who have no further drinking/driving-convictions compare to clients who have further convictions in Michigan Alcoholism Screening Test (MAST) and Numerical Drinking Profile (NDP) tests?

Is the age of the participant a factor in predicting further drinking/driving-related convictions?

Is the total number of convictions of the participant a factor in predicting further drinking/driving-related convictions?

Is the number of drinking/driving-related convictions before the course a factor in predicting further drinking/driving-related convictions?

How do the Knowledge Inventory scores compare between the IDEA participants who had no further convictions within

three years of the course and those who did?

How do the Behavioral Intentions scores compare between the IDEA participants who had no further convictions within three years of the course and those who did?

How do the Opinion Survey scores compare between the IDEA participants who had no further convictions within three years of the course and those who did?

How do clients who have no further convictions compare to clients who have further convictions in MAST and NDP tests?

Is the age of the participant a factor in predicting further non-drinking/driving convictions?

Is the total number of convictions of the participant a factor in predicting further non-drinking/driving convictions?

Is the number of drinking/driving-related convictions before the course a factor in predicting further non-drinking/driving convictions?

Can regression analysis of success factor against Knowledge Inventory, Behavioral Intentions, Opinion Survey, MAST, or NDP scores, or participant age, predict change in the participant's conviction record?

Rationale

"We are in a forest of symbols surrounded by a jungle

of fact" says Gusfield (1981, p. 112) in his book The Culture of Public Problems: Drinking Driving and the Symbolic Order. This statement is likely true, as understanding drunk driving behaviour is difficult. The clients referred to in the Halton IDEA program appeared to be those who were either second offenders or those with high blood alcohol concentrations (BAC). I asked them for their BAC during class # 5; it averaged 0.200 mg BAC, or higher, in each class. The legal limit in Canada is 0.080 mg BAC. Hence, it can be inferred that the judges were selecting the alcohol-tolerant offenders to attend.

The IDEA program receives approximately 100 referrals a year from the provincial court. This number of referrals has risen since the program's beginnings in 1984, when there were approximately 50 referrals.

According to figures compiled by the Addiction Research Foundation in 1985, 1,206 persons were charged with impaired driving or refusing to provide a sample of breath for analysis in the Halton Region. In 1989, 1,025 persons were charged with these offenses. Greater public awareness of the dangers of, and penalties for, impaired driving may have caused the socially responsible person to drink at home, take a taxi, or ride with a designated driver.

From my experience in working with impaired drivers over the last 12 years, from 1979 to 1992, the impaired driver population has shifted more to those who feel they

have not much to lose. The people involved in these crimes are often repeat offenders, for whom the threat of jail does not seem to be an effective deterrent (Votey, 1988). Some tell me they even drive while their license is under suspension.

An improved understanding of alcohol-impaired drivers may assist in the development of programs better suited to the offenders' needs. Such programs may assist the participants to cease this harmful behaviour. If we can reduce the number of further offenses in this group, then society will benefit with reduced taxes, reduced health care costs, and safer roads for all. By eliciting the best response from the offenders, we should be able to encourage them to join society in a productive way.

Through this study, I intended to determine which Knowledge Inventory and Opinion Survey measures, or other demographic factors, might predict future arrests.

Background and Context

Although the population referred to the IDEA program by the courts and probation officers is heterogeneous, some members have characteristics in common as outlined by Dr. Grant Coulson, chief psychologist at the Vanier Correctional Centre for Women. He has coined the term "Twinkie Syndrome". Elements of this syndrome include: live for

today; love to party; unreliable; been in jail; cannot hold a job; violent; macho; lots of hubris; highly emotional; unreasonable; and stubborn. By and large, my clients fitted this description. They were not so much a cross section of the impaired driver population as they were a cross section of the impaired driver population that the judges, crown attorneys and probation officers wanted to have seriously scrutinize their drinking.

The IDEA program concentrates on the acquisition of knowledge; the practising of new, healthier behaviour; and the ingraining of an understanding of "a new, healthy life after alcohol" for those clients who cannot maintain a problem-free drinking regimen.

This study examined what factors determine who is likely to reoffend. I examined demographics and test scores on pre- and post-program Knowledge Inventory, Behavioral Intentions and Opinion Survey tests, and two alcoholism screening tests used by Malfetti (1980) for the Phoenix ASAP program.

Since the mid sixties, as society began to understand the role alcohol has played in traffic safety, some jurisdictions have implemented alcohol education programs. One of the first, and most copied, was the Phoenix program, developed by James Malfetti and Darlene Winter. They developed a manual, revised in 1980, entitled Counselling Manual for Educational and Rehabilitative Programs for

Persons Convicted of Driving While Intoxicated (DWI), for use as a blueprint for establishing alcohol education programs throughout the United States. These programs were offered in more than 400 jurisdictions, as part of the Federal Alcohol Safety Action Project.

Efforts at evaluating the programs have not, perhaps, been so vigorous as they could have been, which follows "the old social services rule #12 - It's much easier to provide service than produce results" -according to Dr. Grant Coulson in his paper (undated) entitled "The Myth of Linearity in Correctional Rehabilitation". He goes on to state "This is probably not rule #12 but the fundamental tenet of social sciences"(p. 3).

The first generation of these alcohol education programs concentrated on providing information; the second generation added attitude change to its agenda; and the current generation concentrates on assessment and skills building.

We measured knowledge and attitude change, but did these translate into behaviour change? This study attempted to find out. We were able to describe the population of 214 graduates with respect to their pre- and post-test scores on knowledge and attitude, their degree of alcohol involvement as measured by the Michigan Alcoholism Screening Test (MAST) and their Numerical Drinking Profile (NDP), their sex, their age at the time of the course, and their criminal record as

contained in the Canadian Police Information Centre (CPIC) computer. We examined all these variables and determined the profile of people who did not reoffend and the profile of those who did.

The IDEA program takes all referrals and cannot expel someone unless he or she fails to comply with its conditions (i.e., attendance at all sessions, sobriety, and active participation during the sessions). Consequently, the group under study is typical of the people passing through the IDEA program.

Although the program is not intended for people with long-term serious alcohol problems, or with numerous prior convictions, judges do send some people in these categories to the programs. In the ideal world, the program and the client would always be a good fit. In practice, this is not necessarily the case. Thus, while I would like to credit the program for all the successful (no further criminal convictions) graduates and blame all the recidivism on extraneous factors (no reflection on the program's effectiveness), that would exaggerate the influence of what I do.

Definition of Terms

BAC: Blood Alcohol Concentration, typically measured as milligrams (mg) of alcohol per decilitre (dl) of blood; the

legal limit in Ontario is 0.08.

CPIC: Canadian Police Information Centre, maintained by the Royal Canadian Mounted Police (RCMP); a Canada-wide system containing all records of "fingerprinted" criminals.

High Problem Offender: Individuals who have a prior arrest history for alcohol-related offenses and a high BAC at arrest.

Impaired Driving: "Everyone commits an [impaired driving] offence who operates a motor vehicle or vessel, or assists in the operation of an aircraft, or has the care or control of a motor vehicle, vessel or aircraft, whether it is in motion or not, (A) while his ability to operate the vehicle, vessel or aircraft is impaired by alcohol or a drug; or (B) having consumed alcohol in such a quantity that the concentration thereof in his blood exceeds 80 milligrams of alcohol in 100 millilitres of blood." (Section 253a, Criminal Code of Canada).

Low Problem Offender: Person who has no history of prior arrest for alcohol-related offenses and BAC of less than 0.15 at arrest.

Recidivism: The tendency to relapse into delinquent or criminal activity.

Young Offender: A person who has committed a crime under the age of 18; for the IDEA program the age is 15 to 17.

Limitations and Assumptions

The major limitation of this study was the difficulty of catching impaired drivers. In their article entitled Drunk Driving Enforcement, Adjudication, and Sanctions in the United States, Robert B. Voas and John H. Lacey (1990, p.116) write "the ratio of violations to arrests may now be down to 1000 to 1." The IDEA clients, after they had reflected on their past behaviour, often admitted to driving many hundreds of times after excessive drinking before being convicted even once.

This study did not measure whether IDEA graduates have ceased alcohol-fuelled impaired driving, but only whether they have been caught, convicted and fingerprinted for it. Some jurisdictions do not fingerprint convicted impaired drivers. Halton Region has been systematically fingerprinting impaired drivers since 1985. The RCMP will not enter data on a person into the CPIC system unless they are accompanied by fingerprints. Therefore, people who have not been fingerprinted, but who may have committed, and have been convicted of an alcohol-related offence were missed by this study.

Another limitation was the potential for inaccuracies in the answers to the questionnaires. The participants could have handed in the questionnaires with answers that did not reflect their true feelings but rather what they

thought the instructor wanted to see. The people who designed the Phoenix program participant survey that I have adopted and adapted discuss this situation in their manual. I tried to circumvent this possibility by adding questions that virtually demanded an honest answer.

Literacy posed another limitation in that some clients were essentially illiterate and some did not understand English very well. Volunteers are provided in the program to assist individuals with these problems, but not all the participants who need assistance request it. As this was a heterogeneous population, their literacy level may be in line with the Canadian average of approximately 70%.

People such as those sentenced to the IDEA program need more than just information. They need to be encouraged to examine their attitudes towards drug and alcohol use and abuse with a competent adult educator who is genuinely interested in engaging with them in transformative learning. Only in this way will they make more responsible decisions about whether or not to engage in driving after drinking. Therefore, an education program that concentrates on more than the acquisition of knowledge can be an effective agent in the reduction of recidivism in this population.

Although it is understood that the actual crime rate of the population being studied may far exceed the convictions recorded in the CPIC database, we assume that a significant number of clients' crimes are recorded in there.

Outline of the Remainder of the Document

The remainder of this study is recorded in the following chapters. Chapter two reviews the literature of adult education, particularly as it relates to the concept of transformative learning. Chapter three describes the method employed, including sample selection, research design, instruments, procedure, data collection, recording and analysis. Chapter four presents the results of the analysis. Chapter five includes the discussion, implications, and conclusions of the study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Introduction

This chapter will cover aspects of adult education theory, with particular reference to the work of Jack Mezirow, Stephen Brookfield and Patricia Cranton. The history of alcohol use and abuse will be reviewed briefly, along with an overview of the history of impaired driving and the education programs that have been developed to address this social problem. Finally, the Halton Impaired Driver Education and Awareness (IDEA) program and its objectives will be described.

Adult Education Theory

"Knowledge of the issues and consequences of drinking and driving is considered a necessary, but most likely not a sufficient, condition for the formation of sober driving behaviour or drinking-driving behaviour change" (Vingilis, 1981, p. 250). On this quote rests the IDEA philosophy. Based on the principles of adult education, IDEA program goals include knowledge, attitude change, and, most importantly for the participants and for our society, behaviour change.

As Cranton (1992) states, "Adult education, then, becomes the set of activities or experiences engaged in by

adults which lead to changes in thinking, values, or behaviour" (p.3). For Mezirow (1990), "The essence of adult education is to help learners construe experience in a way that allows them to understand more clearly the reasons for their problems and the action options open to them so they can improve the quality of their decision making" (p.203).

Adult education involves the active interaction of the learner and facilitator with the ultimate goal of personal change. With respect to adult education, Mezirow (1990) states, "To be an educator in this context means to serve as a role model for critical reflection and the ethical idea of caring and to serve as a committed co-learner and occasional guide in the exciting journey of transformative learning" (p.360). In other words, we educators participate with the learners. Mezirow (1990) continues, "Our function is to help learners critically examine the sources and consequences of their own meaning perspectives and interpretation they have made of their own lives" (p.361). In the case of IDEA participants, this includes examining reasons for their drinking and repeated violations of the laws of Ontario.

Mezirow (1990) believes that one task of adult educators is to help learners to examine their beliefs and behaviours critically, present and past, and how they have affected the learners' lives. This examination must be carried out in a supportive and non-judgemental environment

such that the learners can feel that it is safe to be honest with other group members, the facilitator, and, most of all, themselves.

The IDEA participants who have criminal records and/or alcohol problems may have difficulty in seeing which is the cause and which is the effect. As Keith Richards of the Rolling Stones said after having been asked, "Do you feel you have a problem with drugs?", "I've never had a problem with drugs, only with policemen" (Interview with Bill Husted, Rocky Mountain News, Friday, October 4, 1991, p. 198). This is an excellent example of a psychological distortion in meaning perspective. Mezirow (1990) asserts "Educators can provide the emotional support and theoretical insight into transformative learning that is necessary to help learners correct the most common psychological distortions in meaning perspective" (p.205).

Emancipatory education, a term defined by Jack Mezirow (1990) is "An organized effort to precipitate or to facilitate transformative learning in others" (p.xvi). He expands on this (1990) by stating "Emancipatory education is an organized effort to help the learner challenge presuppositions, explore alternative perspectives, transform old ways of understanding, and act on new perspectives" (p.18). He writes, further, that emancipatory education has as its goal not only individual change, but also social change. For IDEA clients, it follows that individual change

(i.e., stopping the practice of drinking and driving) produces a positive social change for all of us (i.e., safer roads).

Both Stephen Brookfield and Jack Mezirow write extensively about fostering what they term critical self-reflection. "Critical self-reflection", wrote Mezirow, "has the potential for profoundly changing the way we make sense of our experience of the world, other people, and ourselves. Such transformative learning, in turn, leads to action that can significantly affect the character of our interpersonal relationships, the organizations in which we work and socialize, and the socioeconomic system itself" (1000, p. xvi).

The capacity for critical reflection can be developed and the process of critical reflection can be learned. Critical reflection can open the door into the psyche to enable a person to grow through self-awareness. As Mezirow (1990) wrote, critical reflection will assist us to understand the reasons for why we do what we do. This requires a certain amount of bravery.

Mezirow (1990) quotes Brookfield outlining the steps involved in critical reflection. "The process of critical reflection can be viewed as comprising three interrelated phases: (1) identifying the assumptions that underlie our thoughts and actions; (2) scrutinizing the accuracy and validity of these in terms of how they connect to, or are

discrepant with, our experience of reality (frequently through comparing our experiences with others in similar contexts); and (3) reconstituting these assumptions to make them more inclusive and integrative" (p.xvi). Central to the process of critical reflection, then, is the recognition and analysis of assumptions. Brookfield defines assumptions as a mindset of taken-for-granted ideas, beliefs, and rules-of-thumb that form how we think and influence how we act.

The goal of emancipatory education and critical reflection is transformative learning. This, Mezirow (1990) believes, will result in the reformulating of our meaning perspectives. We will then have a more inclusive, discriminating, and integrative understanding of our experiences. For the process to be complete, action must be taken using what we have learned.

Others have written about transformative learning, including Irvin Roth (1990) who wrote, "Transformative learning is aimed at helping the individual become more aware and critical of assumptions in order to actively engage in changing those that are not adaptive or are inadequate for effective problem solving" (p.159).

The best setting for transformative learning is not necessarily a group of fifteen disparate individuals who have been ordered by the court to attend an alcohol-education program, which can pose a real problem. They do not arrive with a burning desire to learn anything, and most

certainly do not come to be transformed. The following Mezirow (1990) paraphrase is oriented towards a volunteer "student" and not the penal implant. As learners engage in transformative learning, they are not necessarily aware that is what it is. They are uncomfortable; their world view has been disrupted as a result of their arrest and conviction. They may be on the verge of examining ways of changing their behaviour, in which case the educator can assist by helping them to examine their assumptions and by supporting and encouraging them in their efforts. The educator may also be able to help those who arrive at the program with no notion of changing their attitude or behaviour.

Mezirow asserts that learning is not simply a goal; it is an activity. How we interpret the events of our life determines our decisions and actions. In reality, people can control their experiences rather than be controlled by them (i.e., each person is responsible for his or her decisions and actions).

A first step for the court-ordered program participants is to begin to think about controlling their lives, rather than believing that events are beyond their control. Before engaging in transformative learning, they often appear to believe that what happens to them is more a matter of luck, or magic, than of personal volition.

For the penal students, transformative learning involves re-interpreting events that brought them to the

course. As Mezirow (1990) wrote, "Learning may be defined as the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding, appreciation, and action" (p.1). In other words, having re-examined the events leading up to their arrest, conviction, and sentencing, the idea is that they would accept responsibility for their actions and formulate a personal plan to avoid another arrest.

To sum up the theory, Mezirow (1990) reflects, "Transformation theory is a theory of adult learning. As such, it attempts to describe and analyze how adults learn to make meaning of their experience. A philosophy of adult education predicated upon this understanding of the nature of adult learning is a prescription for the educational interventions that are appropriate to help adults learn" (p.198).

Characteristics of the Learner

Mezirow (1990) declares, "most significant adult learning occurs in connection with life transitions" (p.17). Thus, an arrest for an alcohol-related offence can become an opportunity for learning.

As Roth (1990) indicates, "When people realize that their present frames do not adequately organize some area of experience, they are stimulated to develop new frames or

recontextualize old ones" (p.124). People finding themselves without a driver's licence and with a criminal record, and being forced to attend an education program because a judge believes they need to examine their drinking pattern can be inspired by this situation to effect a behaviour change. If such a breakthrough does not occur, the distorted assumptions and meaning perspectives which underlie the problem will remain unchanged. Roth (1990) continues by saying that a distorted assumption fails to equip the learners with a clear vision of what they are doing with their life.

Many IDEA participants disclose that they grew up in homes where alcohol was abused; their children are, in turn, now watching them act in the same way. The difficulty in changing alcohol-abusive behaviour is that, by the time a person has grown up, he or she may have watched family members use alcohol inappropriately thousands of times. It becomes embedded in the memory. Some have buried such memories, while others have internalized this behaviour. A number of clients have said "I watched my old man get drunk so many times when I was growing up, I swore that I would NEVER be like that. And here I am, just as bad as he was."

Mezirow (1990) proclaims, "Psychological premise distortions produce ways of feeling and acting that cause us pain because they are inconsistent with our self-concept or sense of how we want to be as adults. They are artifacts of

our earlier experience - ways we have learned to defend ourselves after childhood traumas - that have become dysfunctional in adulthood. Through premise reflection we can understand how they have come to shape the way we feel and act and their consequences" (p.138).

If the IDEA clients can bring themselves to change their assumptions, then, as Cranton wrote (1992) "Changes in assumptions lead to changes in an individual's perspective, the way he or she sees the world. And that, almost inevitably results in action based on the changed perspective" (p.149). For the IDEA participants, the ideal outcome following these changes is for them to decide to live a crime-free life and reduce their alcohol consumption to a non-problematic level.

Characteristics of the Educator

What is the role of the educator? The educator in the IDEA program has many roles: extension of the legal system, authority figure, dispenser of information, entertainer, interpreter, conscience, and muse. Mezirow wrote (1991) "An educator or therapist may help the learner identify the specific problem to be resolved, its symptoms and the pain it evokes, the ways of dealing with the problem that are not working, and the learner's willingness to change. The potential solution or needed action is identified among

several possibilities, and an action plan is formulated. The strong feelings that impede action must also be dealt with before transformation can occur; simply understanding the situation is insufficient to effect transformative learning. Transformative learning may involve progressively greater risk-takings in deciding action steps" (p.140).

In the initial class, clients are informed that mere attendance is not enough. They must participate in order to graduate. As the weeks progress, and the group becomes more cohesive, the educator provides learning experiences that provoke and challenge the clients' assumptions.

Brookfield (1986) states, "Beginning to recognize and then critically question key assumptions is like laying down charges of psychological dynamite....Hence, educators who foster transformative learning are rather like psychological and cultural demolition experts....When done properly, demolition requires training and sensitivity....Assisting people to break out of their assumptive worlds without threatening or intimidating them to the point of withdrawal is highly problematic" (pp.178-179).

Each week, with increasing trust in the educator, the atmosphere in the class improves and camaraderie develops among all the participants. To quote Mezirow (1991), "The relationship between educator and adult learner in this kind of learning is like that of a mentor trying to help a friend decide how to deal with a significant life problem that the

friend may not yet have clearly identified as the source of his or her dilemma" (p.223). The issue of alcohol abuse is a difficult one because it involves loss of control, guilt, and shame.

An atmosphere of concern and support must be present in order to explore the causes of the participants' abusive behaviours and their consequences. Group learning, at its most dynamic, can approach group therapy. However, as Mezirow (1991) reports, "While psychotherapists make transference inferences in a treatment modality, educators do not - but they can provide skilful emotional support and collaborate as co-learners in an educational context" (p.17).

Irvin Roth describes (1990) the educator/learner relationship as follows: "The facilitator of personal development - the teacher, the advisor, the psychotherapist - provides guidance to the student or client who is evolving from one identity to another" (p.116). For IDEA participants, the evolution is from felon to citizen.

Jack Mezirow (1991) quotes from Stephen Brookfield on the process of transformation writing, "Brookfield describes other effective strategies for facilitating critical thinking. Educators can create a supportive social climate; listen attentively to verbal and non-verbal cues so as to be able to frame critical questions in terms learners understand; sensitively balance the provision of unqualified

support with a challenge to old models of thinking; mirror the learners' attitudes, rationalizations, and habitual ways of thinking and acting to enable them to see themselves from a different perspective" (p.373).

Alcohol Use and Abuse

Alcoholic beverages have existed since the first cave-dweller ate fermented berries. Egyptian hieroglyphics found on the inside walls of pyramids provide detailed instructions for brewing beer. Furthermore, packed in jars next to the pharaohs were seeds of hops and barley to be sown in the next world for the pharaoh's beer supply there (The Metropolitan Museum of Art, New York City).

Rudolph Michel and Patrick McGovern in an article titled "Chemical Evidence for Ancient Beer" in Nature magazine (1992, Nov 5) states, "Godin Tepe, a site (excavated by a team from the Royal Ontario Museum) in the nearby Zagros mountains of Iran ...has yielded the earliest chemical evidence for beer. We have discovered a characteristic organic residue inside a pottery vessel which was evidently used for beer fermentation or storage" (p.24). The article continues, "The chemical evidence for the earliest beer at Godin Tepe complements the findings of the earliest grape wine there, also dating to the last half of the fourth millennium B.C."

The first biblical reference to alcohol use and abuse is found in Genesis 9:1 to 10:7:

> Noah, a man of the soil, proceeded to plant a vineyard. When he drank some of its wine, he became drunk and lay uncovered inside his tent. Ham, the father of Canaan, saw his father's nakedness and told his two brothers outside. But Shem and Japheth took a garment and laid it across their shoulders; then they walked in backward and covered their father's nakedness.

A second biblical reference is found in Proverbs 29-30:

> Who has woe? Who has sorrow? Who has strife? Who has complaints? Who has needless bruises? Who has bloodshot eyes? Those who linger over wine, who go to sample bowls of mixed wine. Do not gaze at wine when it is red, when it sparkles in the cup, when it goes down smoothly! In the end it bites like a snake and poisons like a viper.

As Shakespeare had a porter assert in Macbeth, Act 2, "It [drink] provokes the desire, but it takes away the performance" (p.1053). This quote may have referred to sex, but it also extends to driving.

Alcohol is a drug which our society has chosen to keep legal in spite of its obvious adverse health effects and the expensive societal problems that result from its abuse. Its use is ingrained in many civilizations. For example, wine is

used in place of water in areas with contaminated water supplies, and it is used in a sacrament in the Christian Church.

This drug will be with us as long as the three key ingredients remain available - fruit, yeast, and time. Access to these ingredients is why so many inmates volunteer to work in the kitchens of prisons; they want vegetable and fruit peelings for their stills, which are secreted within the walls of every prison (personal communication).

The current statistics on alcohol consumption in Ontario cited below were compiled by the Addiction Research Foundation (ARF), Toronto, from survey data. In Ontario, in 1989, 83 percent of adult respondents consumed alcohol and 55 percent admitted to drinking five or more drinks at a single sitting. Ten percent said that they drank daily. In 1988/89 Canadians drank 9.9 litres of absolute alcohol per capita for everyone 15 years old or older, which translates to just under two drinks a day per drinker. Canadians spent $9.6 billion in the retail outlets (beer, wine, and liquor), and approximately $2.6 billion in licensed establishments.

Drinking and Driving

People have been "driving" since they first harnessed animals to provide transportation. People have been "driving" after drinking for thousands of years. This

behaviour has continued without many recorded catastrophes, most probably because the animals knew enough to get out of each other's way.

Impaired driving has become the social problem of the latter half of the 20th century, the combination of greater social acceptability of alcohol consumption (which is currently undergoing considerable change), the increasing density and speed of motorized vehicles on our roads and highways, and an increasingly obvious disregard for the law (especially traffic laws). However, the problem is not new. A 1904 study of fatal crashes involving "automobile wagons" found that a large percentage of drivers had been drinking prior to crashing and stated: "Inebriates and moderate drinkers are the most incapable of all persons to drive motor wagons. The general palsy and diminished power of control of both the reason and the senses are certain to invite disaster in every attempt to guide such wagons". (Quarterly Journal of Inebriety 1904, quoted in U.S. Department of Transportation 1968, p.147)

A terse examination of the statistics on deaths and injuries related to alcohol-induced/influenced crashes (Traffic Injury Research Foundation, 1989, 1990) may obscure the fact that each death represents the premature loss or preventable injury of a human being. When considering the number of people killed annually on Canada's roads, the statistics can be made real to an audience by using the 747

analogy - the death of the 2,500 people killed in alcohol-related crashes in 1990 (Carey, 1991) is equivalent to more than five fully-loaded Boeing 747 passenger planes going down without survivors. One plane crash makes headlines for days, with news and related "human interest" stories - and yet, impaired driving crashes are relegated to the back pages. Why? We seem to accept the carnage on the roads and highways as a normal part of today's society and its love affair with cars and alcohol. However, the effect on the families involved is just as highly traumatic.

According to Newsweek magazine (Oct. 19, 1992), recent U.S. Justice Department statistics for the 1980s show that "the number of driving-while-intoxicated arrests rose 22 percent in the 1980s" (p.8). The same article also stated, "more than half of the 1.7 million Americans arrested for drunken driving in 1989 have already done jail or prison time for DWI." Clearly this is a problem that is not cured by incarceration alone.

Impaired driving has been called "a folk crime" by Gusfield (1981, p.134), meaning that many of us who are otherwise upstanding citizens have committed this offence. Impaired driving is not viewed by society in the same light as robbing a gas station, for example, in that it is committed largely without criminal intent.

Public disapproval of impaired driving has gathered momentum over the years as the toll from this completely

preventable cause of death has continued to rise. One seminal event took place in California in 1980. On May 7, 1980, as she and some friends were walking home from school, an impaired driver struck and killed 13-year-old Cari Lightner. Her mother, Candy, in her grief and frustration, started a citizen's group which she named "Mothers Against Drunk Drivers" (MADD). As a result of this group's efforts, the laws and penalties dealing with impaired driving in California were toughened (personal communication during the Ontario Conference on Impaired Driving, 1989). Since California often leads societal change, the ensuing tougher laws and heavier penalties for impaired driving in many U.S. states and in many provinces in Canada can likely be traced to this one needless death.

In the last decade, in many parts of the United States and Canada, the penalties for drinking and driving have been increased (Laurence, 1988), largely due to the efforts of victims' groups such as Mothers Against Drunk Drivers (MADD). Penalties include license suspensions, fines, imprisonment, treatment, and alcohol education programs. In some jurisdictions, alcohol education and awareness programs have been established (Podolsky, 1985; Wilson, 1990). Such programs range from distribution of home reading materials to short-term education programs or long-term, individually oriented treatment.

The change in penalties in Ontario came into law on

December 5, 1985. The driver's license of convicted first offenders is now suspended for one year, instead of the previous three months and the mandatory fine ranges from $300.00 to a maximum of $2,000.00. On a second offense within five years, the convicted person faces a mandatory period of incarceration of a minimum, fourteen days, and a license suspension of two years (Criminal Code of Canada).

In Canada, in 1987, 42 percent of fatally injured drivers who were blood tested were found to have been legally impaired, according to the Traffic Injury Research Foundation.

Impaired driving is an oft-committed crime. In 1988, according to the Addiction Research Foundation, 121,307 people were charged for traffic offenses involving alcohol in Canada. Drinking drivers accounted for 17 percent of all admissions to jails. Clearly this is an expensive problem.

The Ontario Road Safety Annual Report of 1990, published by the Ministry of Transportation, states that in 1989, "Of the suspensions for alcohol related offenses, approximately 58 percent were issued to drivers with previous alcohol convictions. The increasing percentage of repeat offenders is a continuing trend" (p.53). Previous offenses are defined as those that have resulted in a conviction in the five years prior to the present conviction.

According to the Reuters News Service, the roads are becoming safer. Marion Blakey, Administrator at the

National Highway Traffic Safety Administration, stated at a news conference on December 29, 1992 that the projected total number of U.S. motor vehicle fatalities in 1992 is expected to be 39,500, the lowest in thirty years. Fatalities involving alcohol are estimated to be 46 percent of the total, down from 57 percent in 1982.

Education Programs

Education programs are considered as "add-ons" (i.e., in addition to other penalties). The selected offender is placed on probation, usually for a period of twelve months. The probation is for the purpose of compliance; without probation, the person could not be returned to the court for not finishing the program or for breaching one of the conditions of the course (e.g., arriving intoxicated at the course).

One of the first examples of a comprehensive alcohol education program was the Phoenix program (Malfetti & Winter, 1980). Both voluntary and court-ordered programs of various designs have been established (Malfetti, 1975, 1980; Siegal, 1985). The exact number of program designs is difficult to ascertain, as no central registry of programs addressing impaired driving exists in North America.

In Ontario, I have had discussions with the directors of three court-ordered alcohol education programs located in

Peel region and the city of Hamilton, in Brantford, and in Toronto. Each has a different program design with different requirements for the participants to fulfil, different maximum class size, different number of total contact hours between participants and educator, and, most importantly, a different underlying philosophy.

One program, SIPIT (Stop Impaired Probationers in Toronto), as an example, utilizes guest speakers for some of the sessions in an effort to impact on their class members. Such speakers could be an undertaker, an insurance agent, a victim describing how an impaired driver has tragically altered his or her life forever. In the other sessions, the participants watch films of impaired driving crash scenes including the victims (personal communication with director). This design could be termed the "retribution" approach. Its developers believe that this approach is the best way to effect change in this population. However, little support for this approach is evident in the literature.

Over the years, drinking/driving offenders have been broadly classified as either "low problem" or "high problem" offenders. Studies have established which types of program are effective with each group. Opinion is divided as to whether alcohol education of any kind is beneficial (Liban, Vingilis, and Blefgen, 1987; Mann, Vingilis, Leigh, and DeGenova, 1983). For low problem offenders, Foon (1987),

Holden (1983), and Landrum (1982) found no positive impact on recidivism due to attendance at an alcohol education program. However, other workers (Blount, 1983; Essex and Weinerth, 1982; Nichols, 1978) found beneficial effects on recidivism for those people who attended alcohol education programs.

For high problem offenders, several researchers (Blount; Reis and Chappel, 1983; Landrum, 1982; and Vingilis, 1981) found that neither alcohol education nor short-term treatment had a beneficial effect on recidivism rates. Blount et al. (1983), Holden (1983) and Nichols et al. (1978) found the only beneficial program for high problem offenders to be long-term individually oriented treatment.

Of more direct interest to the Province of Ontario is the evaluation of the Oshawa Impaired Driving Rehabilitation Program by Dr. E. Vingilis, E. Adlaf, and L. Chung (1979). They studied a group of convicted second offenders. Participants were assigned to either a rehabilitation program or to probation. Pre- and post-attitude and knowledge tests and an alcoholism screening test, the Mortimer-Filkins Questionnaire (similar to the Michigan Alcoholism Screening Test), were administered. Knowledge scores went up significantly in the treatment group. However, the degree of recidivism was 19 percent in the control group and 21 percent in the treatment group. The

treatment course had consisted of nine, weekly, 2 1/2 hour sessions. Of the 154 participants, 92 were in the program group and 62 were in the control (probation) group; the ratio of male to female participants was 150: 4. The average age was 34.8 years.

IDEA Program

The Halton IDEA (Impaired Driver Education and Awareness) Program (Stoveken, 1988) is an example of a tertiary-prevention, court-ordered program. The IDEA program consists of an optional individual assessment interview, seven compulsory group sessions lasting two and one-half hours each, and a final, individual, thirty-minute, "exit" interview. Participants are pre- and post-tested using instruments adapted from the Phoenix Program (Malfetti, 1980; Sheppard and Stoveken 1990). During the exit interview, the participants learn how they scored on their knowledge, opinion, behavioral intentions, and alcoholism screening tests. They receive a diploma and suggestions for follow-up treatment, if appropriate.

The IDEA program is based on adult education principles. It incorporates a judicious blend of factual information, opportunities to examine behaviour, skills coaching, and assistance. Class size is limited to 15. The educator and learners engage in transformative learning -

through many small group discussions, the fostering of a cooperative atmosphere, and non-judgemental assistance and encouragement on the part of the educator.

IDEA Program Introduction and Objectives

The consequences of drinking and driving are extremely costly to the people involved - to their families, and to society as a whole - both financially and psychologically. Legal deterrence alone (i.e., ever greater penalties for conviction of drinking and driving), does not deter the majority of people who choose to drink and drive. Research has shown that most of the people who are convicted of drinking and driving offenses are heavy drinkers and many of them can be classified as alcoholics. Since legal deterrence is not the answer for this population, secondary and/or tertiary prevention/intervention may be the only possible methodology that has a chance of changing the behaviour of this target group.

Of course, primary prevention is the ultimate answer to the problem of drinking and driving and its consequences. However, no matter how good our primary prevention programs may be, some people will still become problem drinkers and drive impaired. A program such as the IDEA program will always be needed.

The IDEA program has been used for more than seven years and, while it cannot prevent some recidivism, its

graduates are more likely to shun the hazardous behaviour of drinking and driving.

This program assists participants to understand the role of alcohol in their life, in general, and in their present circumstances, in particular. While information about the physical, emotional and behavioral effects of alcohol are included in the program, it is through the small group activities that the greatest learning takes place and that the participants receive the greatest encouragement towards behaviour change.

The group size of 15 learners is the maximum size for effective transformative learning. A smaller group, say 12, might be more effective. Additional people involved include the educator and one or two assistants, particularly for literacy/language assistance.

Overall IDEA Objectives

The overall objective of the IDEA program is to change the attitude and behaviour of the participants such that they will not offend again.

The methodology employed is outlined in the following list of activities which are basic to the program:

1. Assessing the knowledge and attitude of the participants regarding their personal use of alcohol
2. Building a sense of group cohesion

3. Assisting the participants to understand their drinking in the context of society
4. Discussing the influence of advertising
5. Discussing the omissions of advertising regarding the effects of alcohol
6. Discussing the role of alcohol in society as portrayed by TV
7. Discussing the short- and long-term physical effects of alcohol
8. Discussing the social and behavioral effects of alcohol
9. Assisting the participants to look at their own personal behaviour and values with respect to the use of alcohol
10. Assisting the participants to differentiate among the concepts of social, problem, and alcoholic drinking behaviours
11. Assisting the participants to locate their own drinking behaviour on a continuum from social to alcoholic drinking
12. Assisting the participants to set goals and objectives for the future, especially with regard to the use of alcohol
13. Discussing the processes of recovery and change
14. Discussing the triggers to drinking and ways to avoid them

15. Discussing drugs other than alcohol and their interactions with alcohol
16. Measuring how the participants scored on their post-course tests and compare them to the pre-course test results
17. Providing each participant with an exit interview to discuss his/her test results and suggest specific further help, if appropriate.

Summary

Proper adult education can cause the learner to experience a behavioral transformation. The learner can reconfigure the meaning of past experiences and formulate new understanding of what is appropriate behaviour.

Alcohol abuse has existed as long as alcohol has existed. However, impaired driving has become a social problem only since the advent of motorized transportation.

Attempts by the judicial system to deal with impaired drivers can include ordering the offenders to attend alcohol education programs. The efficacy of these programs in reducing recidivism has been questioned in some circles.

The IDEA program in Halton Region has been in operation since 1984. This study was undertaken to examine whether the likelihood of recidivism can be predicted using information from participants' course files and from the

CPIC system.

CHAPTER THREE: METHODOLOGY

Introduction

This study was undertaken to examine whether the likelihood of recidivism can be predicted using information from the participants' course files and from the CPIC system. This chapter describes the sample selection, instrumentation, procedure, and data analysis.

Sample

The Halton Impaired Driver Education and Awareness (IDEA) program has been operating since October, 1984. The Ministry of Correctional Services of the Province of Ontario contracts Carol Stoveken, through the company called Carol Stoveken Consulting, to provide seven courses of this alcohol and drug education and awareness program each year.

Halton residents convicted of alcohol-related crimes can be sentenced to the IDEA program as part of their probation or parole. Approximately 75 percent of the participants have been convicted of crimes involving alcohol and driving - impaired driving, refusing the breathalyser, driving with more than 80 mg of alcohol in 100 ml of blood (otherwise known as "Over 80"), or care and control of a motor vehicle while under the influence of alcohol. The other 25 percent were referred to the program after being

convicted of offenses related to alcohol or drugs, such as assault or mischief. Only those people convicted of driving offenses were selected for this study.

The IDEA participants comprise a small percentage, perhaps 10 percent, of the total possible pool of convicted offenders. They are usually people with high blood alcohol concentration (BAC), with more than one alcohol-related conviction on their criminal record, who have caused property damage, or who have injured or killed as a result of combining drinking with driving. To date, more than 600 people have graduated in the IDEA program's seven years of operation in Halton.

The three Halton Region provincial judges and the crown attorneys office were contacted to determine how they decide who will be ordered into the IDEA program by the court.

The senior judge, William Sharpe, stated that if the offender had a high BAC, is of a relatively young age, is not already attending Alcoholics Anonymous, and seems to be falling into a pattern of problematic drinking, he or she would be sent to IDEA program (personal communication, August 11, 1992).

Judge William Robinson, stated that having a high BAC and no more than two alcohol-related convictions, along with the judge's assessment of the circumstances of the offense, particularly a disregard for the public safety, would be factors he would consider in determining whether to refer an

offender to the program (personal communication, July 23, 1992).

Judge Douglas Latimer considered the factors mentioned by the other two judges and, in addition, included an indication of an alcohol problem and recommendations from the Crown, the defense, the spouse or other family members, and the probation officer. The ultimate goal, he stressed, is the protection of society (personal communication, July 23, 1992).

Katherine Pickett, of the Crown Attorney's office, mentioned that she would be more likely to send people with high BAC, second offenders, and/or young people. She believes the purpose of the IDEA program is to instill responsibility, and to provide an "eye opener" as to the effects of the offenders' irresponsibility on the community (personal communication, July 23, 1992).

The sample of 214 IDEA program graduates was 91 percent male. Participants ranged in age from 16 to 71 years.

Instrumentation

Clients have been evaluated retrospectively on the basis of several tests. The tests are described below.

The MAST (Michigan Alcohol Screening Test) is a 24-question true or false test comprised of personal questions about drinking habits. The MAST is included in Appendix A.

The KI (Knowledge Inventory) test began as a 20-question, multiple-choice, objective test. The format was changed in 1989 to improve the data gathering. Most of the participants completed the 20-question version; more recent classes of participants completed a 16-question version. The KI measures the participants' knowledge of the effects of alcohol and the relationship between alcohol consumption and driving skills. The KI is included in Appendix A.

The IBI (Inventory of Behaviourial Intentions) test indicates whether a person wants help for an alcohol problem. The IBI is included in Appendix A.

The OS (Opinion Survey) test measures what a person thinks about driving under the influence of alcohol. The OS is included in Appendix A.

The KI, IBI and OS were administered during the first and last program sessions, while the MAST was administered during the first session only.

According to the Counselling Manual of Educational and Rehabilitative Programs for Persons Convicted of Driving While Intoxicated (DWI), by James L. Malfetti and Darlene Winter (1980), the Michigan Alcoholism Screening Test (MAST) is "included in the testing schedule as a measure of the relative alcoholism status of the respondent. Its reliability, estimated for a Phoenix DWI sample (class 57, N= 86), using Kuder-Richardson Formula 20, has been computed at 0.84" (p.105). In interpreting the MAST score, the range

0 to 3 loosely translates as "no drinking problem", 4 to 6 as "potential problem", and 7 or higher as "evident problem." The IDEA participant MAST scores of the population under study ranged from 0 to 23.

The Numerical Drinking Profile (NDP) test "is a composite of six factors, each contributing to a score designed to reveal an individual's position along a problem drinking continuum" (pp105-106). The NDP has a possible range of 1 to 7. A score of 1 is considered to indicate "no problem", 2 to 5 "potential problem", and 6 to 7 "evident problem" (pp. 105-106). The IDEA participant scores ranged from 1 to 7.

Malfetti and Winter (1980) write that for the Knowledge Inventory (KI) test, "estimates of reliability ranging from 0.70 to 0.79 have been made using Kuder-Richardson Formula 20. Content validity is judged to be high" (p.107).

They further write that the Inventory of Behavioral Intentions (IBI) test has "reliability estimates, using Cronbach's Alpha, ranging from 0.94 to 0.96. The IBI appears to have content validity" (p.112).

According to Malfetti and Winter (1980) the Opinion Survey (OS) test, which measures whether or not a person endorses the practice of drinking and driving, is a 20-item list of statements with which the participant agrees or disagrees. It "has a mean scale value of 5.13 with a range from 2.10 to 8.93. The mean Q value is 1.43 with a range

from 0.57 to 2.38. Available reliability estimates, using a split-half technique after rank ordering the items... with the Spearman-Brown Prophecy Formula, ranged from 0.70 to 0.90. The instrument has face validity" (p.109).

These tests have been validated many times (Malfetti, 1980) and have been used extensively in more than 400 alcohol education programs across the United States and Canada. A copy of each of the test instruments has been included in Appendix A.

Procedure

A subset of IDEA program graduates was selected to study the relationship between their personal profile, gathered from the IDEA files, and their criminal profile, gathered from CPIC files. The criteria for selection were conviction on an alcohol-related driving offence and three or more years since graduating from the IDEA program.

The time-span criterion was suggested by researchers Evelyn Vingilis and Robert Mann of the Addiction Research Foundation. This group of IDEA program graduates would provide the best model since they would have had adequate time to be caught in another drinking/driving offence or some other alcohol-related legal trouble. This criterion reduced the sample population to 214 graduates of the 600 total.

The three areas of change measured in this study were knowledge, attitude and behaviour. To determine a baseline for their knowledge and attitude, each participant was tested early in the first class of the seven-week course to measure knowledge, attitude and degree of harmful dependence on alcohol utilizing tests adopted from the Phoenix program. Participants were re-tested in the latter part of the seventh, and last, class. (The Phoenix program was developed by James Malfetti, Darlene Winter, and their colleagues, in 1974 to address the problem of impaired driving in Phoenix, Arizona. Their model was used by the Federal Alcohol Safety and Action Project (ASAP), to develop education programs for offenders; these programs were distributed widely and instituted in many jurisdictions across the United States and Canada).

When I was formulating the Halton IDEA program design in 1984, I consulted with Dr. Robert Mann, one of the foremost drinking/driving researchers at the Addiction Research Foundation, Toronto, to determine the best tools available for measuring change in the alcohol offender population. He recommended the Phoenix program as being the finest, most comprehensive, and most studied program of its kind. Every IDEA client has been tested using the Malfetti (Phoenix program) instruments, modified for Canadian application.

The IDEA program participant test results were

transcribed into a computer database. This information included:

Name

Sex

Young or Adult Offender

Birthdate

Offence Type

Program Date

MAST Score

NDP Score

KI pre- and post-course scores

OS pre- and post-course scores

IBI pre- and post-course scores

To easily and quickly access a person's criminal record, the CPIC system operator typed the name and date of birth of each participant into the system. The CPIC is a Canada-wide computerized system maintained by the RCMP containing information about the history of criminal convictions and any outstanding charges. This information is guarded very strictly, and access into the CPIC system is restricted to law enforcement officers with special clearance. Had the IDEA program not been endorsed by the law enforcement community, this study would not have been possible.

The respective CPIC information and selected data from the IDEA program were matched for each participant.

Data Analysis

All data (IDEA program and CPIC file data) were entered into a computer for statistical analysis, using the Kwikstat program, a public domain program. Lotus worksheets were also used.

Data were exported to other spreadsheets, and to the Kwikstat program. In this way, the integrity of the data was maintained. I used the baseline data to assemble a summary statistics table, Appendix B. I deviated from a standard methodology by using regression analysis to display differences.

The data set comprising the combined data from the IDEA program and the CPIC file provided a confidential (no names) file for statistical analysis. The relationships among all the variables were examined. Numerous tests, including regression analysis where appropriate, were performed on the data. The goals were to describe the population, and to determine whether or not future criminal activity could be predicted from the data set. Descriptive statistics were conducted on all variables to determine measures of central tendency, variance and the characteristics of the sample distribution.

The results of these analyses are discussed in Chapter four.

CHAPTER FOUR: RESULTS

Introduction

This chapter contains the descriptive statistics of the IDEA program samples, including the mean and standard deviation for all variables. Research questions from Chapter one will be restated, with tables and figures accompanying the answers to these questions. Appendix C is a statistical summary of all data collected for the 214 participants in the program.

Descriptive Statistics

Data were collected on 214 participants of the IDEA program, all of whom had convictions for alcohol-related traffic offenses, and had been graduates of the program for at least three years. A subset of the graduates, totalling 100, had a five-year period in which to reoffend.

Of the three-year group, 195 were male (91.1 percent), and 19 were female (8.9 percent). Their average age was 31.6 for the males, and 31.7 for the females.

In the three years following the course, 19 or 8.9 percent had a conviction (2 Female / 17 Male), and 14 or 6.5 percent had a drinking/driving conviction (2 Female / 12 Male).

Figure 1 shows the percentage of the IDEA graduates who

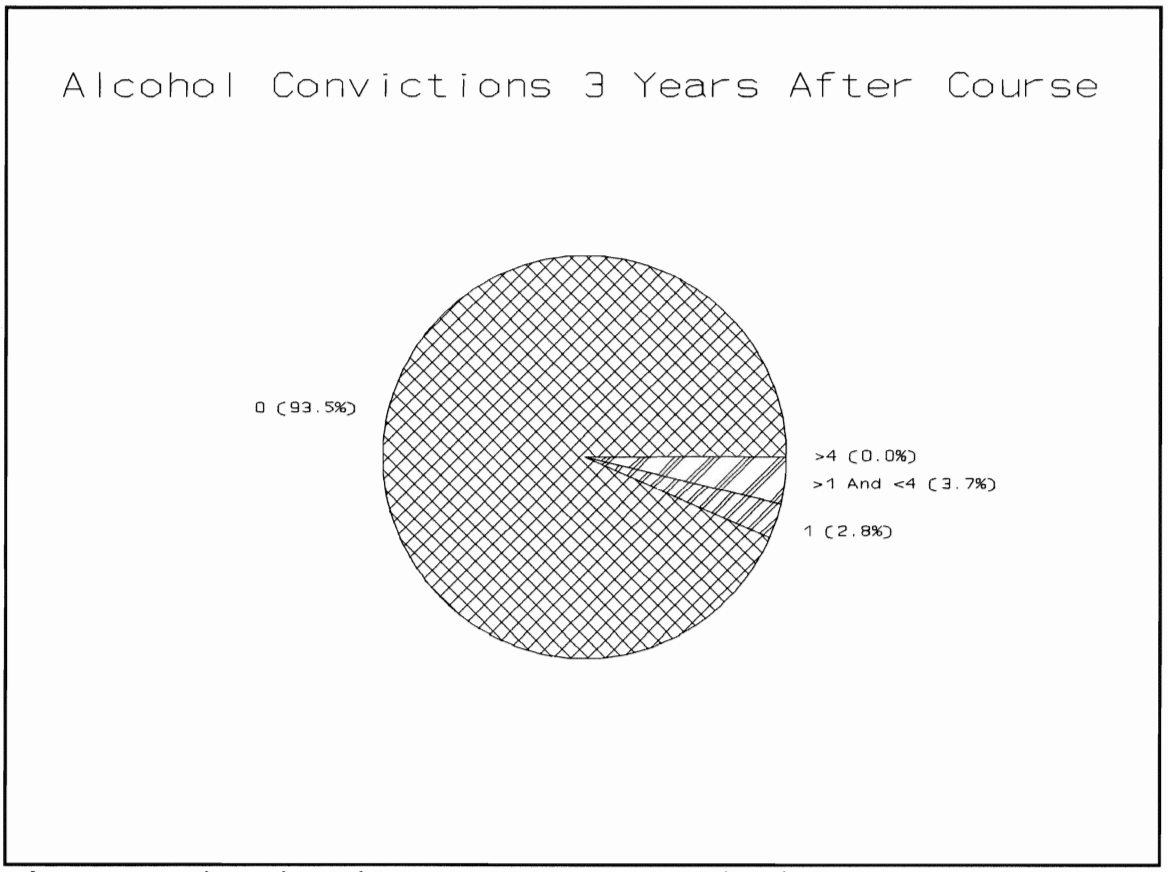

Figure 1 Distribution of Alcohol Convictions After Course

reoffended during the three-year period after graduation.

In the five-year period following graduation, data on 12 female and 88 male participants were examined; 14 percent had a further alcohol-related driving offence. Of these, 11 percent were male and three percent were female. An additional one percent of the 100 had a conviction of another type. The average age was 30.6 years, 30.5 for the males, 31.3 for the females. One male and one female were "young offenders", neither of whom had a further drinking/driving conviction, although the male did have a further, non drinking/driving related conviction (the one percent mentioned above).

The Numerical Drinking Profile (NDP) measures the degree of problematic alcohol involvement. It has a range of 1 to 7 and is described in Chapter three. When this test was taken by the IDEA participants, only 7.5 percent of the graduates scored 1, indicating no problem; 31.7 percent had a potential problem; and 60.8 percent scored as having an evident problem with alcohol.

Another alcohol screening test, the MAST, also measures the degree of problematic alcohol involvement. It is described in Chapter three; the score range is from 0 to 24. The IDEA participants had a average score of 7.3, indicating an evident problem. This score illustrates again that the majority of IDEA participants are not social drinkers.

TABLE 1

PRE- AND POST-TEST COMPARISONS OF KNOWLEDGE INVENTORY, BEHAVIORAL INTENTIONS, AND OPINION SURVEY SCORES

Variable	Mean	S.D.	t	df	p
Knowledge (pre)	11.6	3.4			
Knowledge (post)	14.3	2.7	12.9	213	<0.01
Behaviour (pre)	31.2	10.9			
Behaviour (post)	35.5	10.6	5.9	213	<0.01
Opinion (pre)	5.6	0.8			
Opinion (post)	6.0	0.7	6.0	213	<0.01

Pre- and Post-Test Comparisons

What changes in knowledge, opinion, and behaviour intentions occurred over the course of the program?

Participants' knowledge, opinion, and behaviour, as measured by the Knowledge Inventory, the Opinion Survey, and the Inventory of Behavioral Intentions tests, respectively, were compared on the basis of pre- and post-course test results. The results of these analyses are shown in Table 1.

Significant differences were found between pre- and post-test scores on Knowledge Inventory, Opinion Survey, and Behavioral Intentions. Although it cannot be proven that the IDEA program caused the changes in test scores, it is clear that positive changes occurred.

Prediction of Course Performance from Participant Age

Can participant age be used as a predictor of performance on the IDEA instruments of Knowledge Inventory, Opinion Survey, and Behavioral Intentions? Regression analyses of participant data are displayed in Figures 2 to 7 and summarized in Tables 2 to 4.

The results for Knowledge Inventory appear in Figures 2 and 3, and Table 2; Behavioral Intentions results in Figures 4 and 5, and Table 3; and Opinion Survey results in Figures

TABLE 2

PREDICTION OF KNOWLEDGE INVENTORY FROM PARTICIPANT AGE

Variable	N	R^2	X coef.	s.e.(X)
Knowledge (pre)	214	0.02	-.002	.001
Knowledge (post)	214	0.00	-.001	.001

TABLE 3

PREDICTION OF BEHAVIORAL INTENTIONS FROM PARTICIPANT AGE

Variable	N	R^2	X coef.	s.e.(X)
Behaviour (pre)	214	0.02	.15	.07
Behaviour (post)	214	0.01	.09	.07

TABLE 4

PREDICTION OF OPINION SURVEY FROM PARTICIPANT AGE

Variable	N	R^2	X coef.	s.e.(X)
Opinion (pre)	214	0.043	.02	.005
Opinion (post)	214	0.001	.001	.004

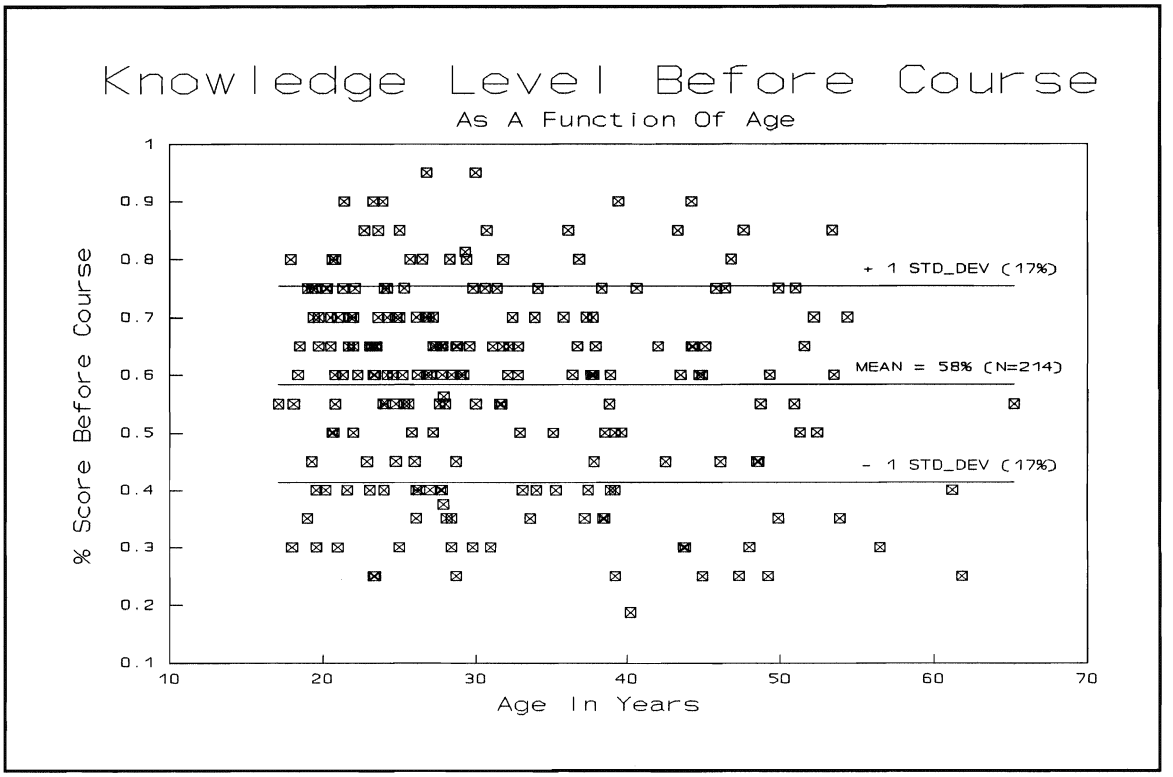

Figure 2 Regression of Age against Before Knowledge

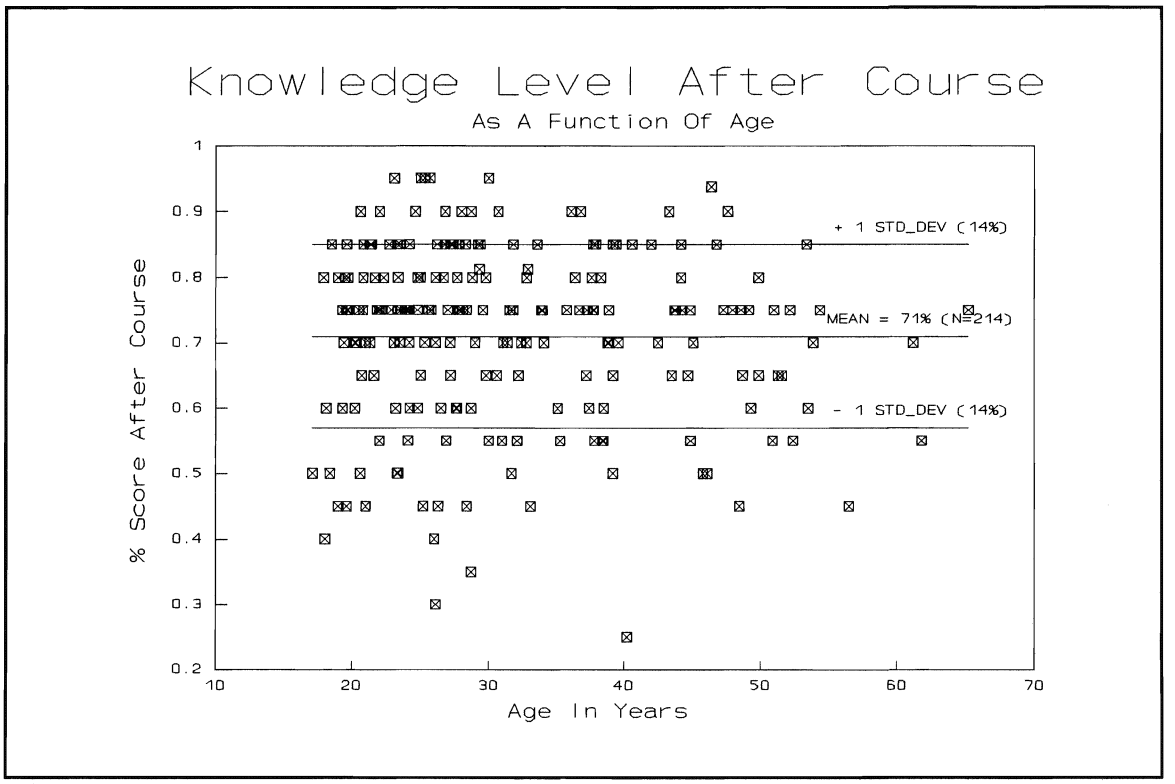

Figure 3 Regression: Age versus After Course Knowledge

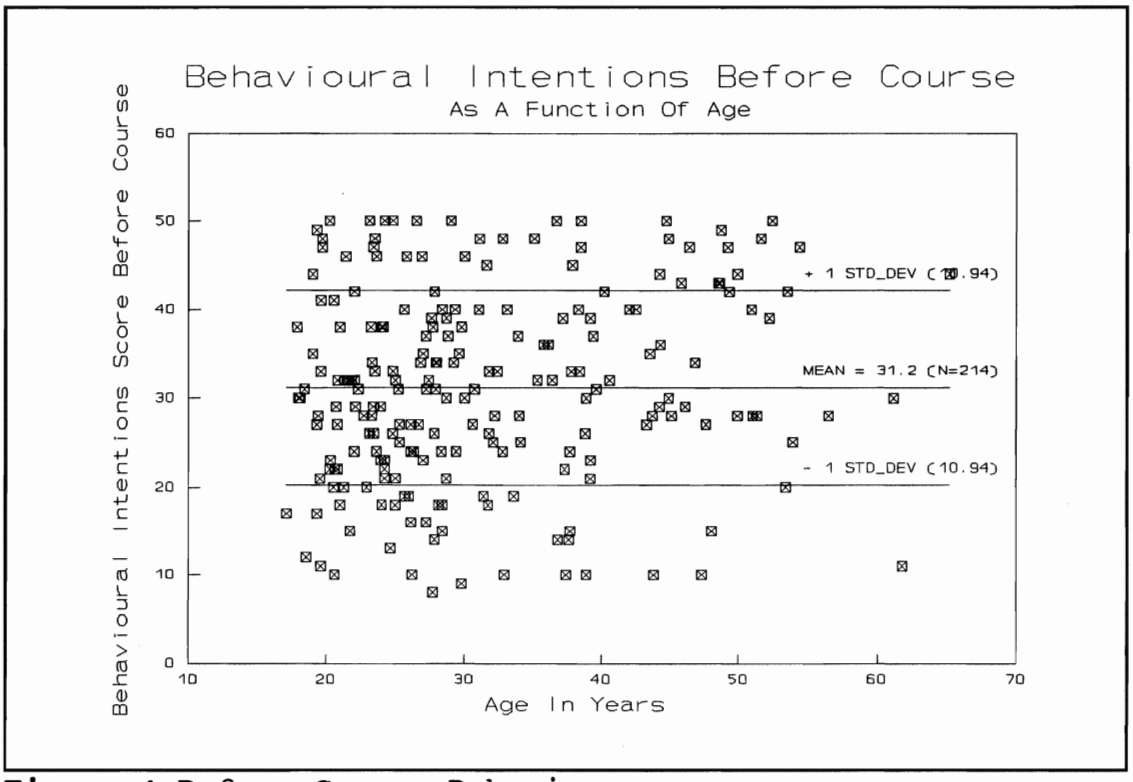

Figure 4 Before Course Behaviour

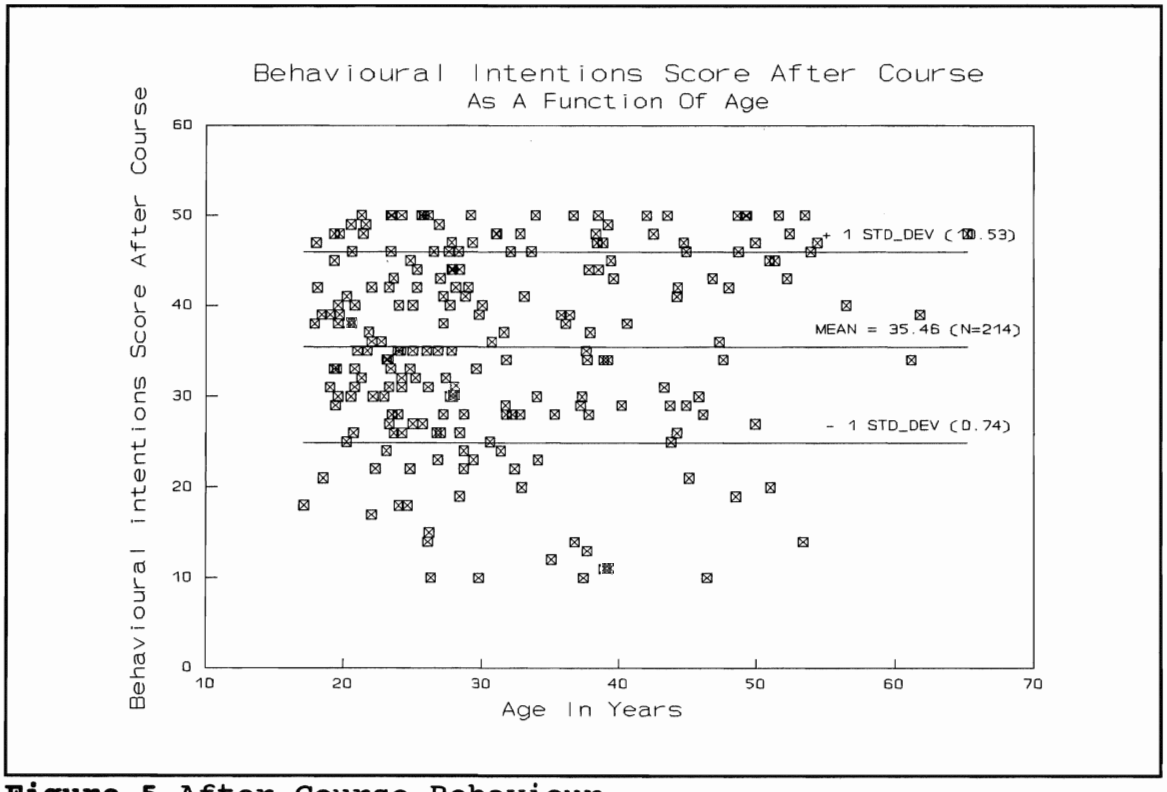

Figure 5 After Course Behaviour

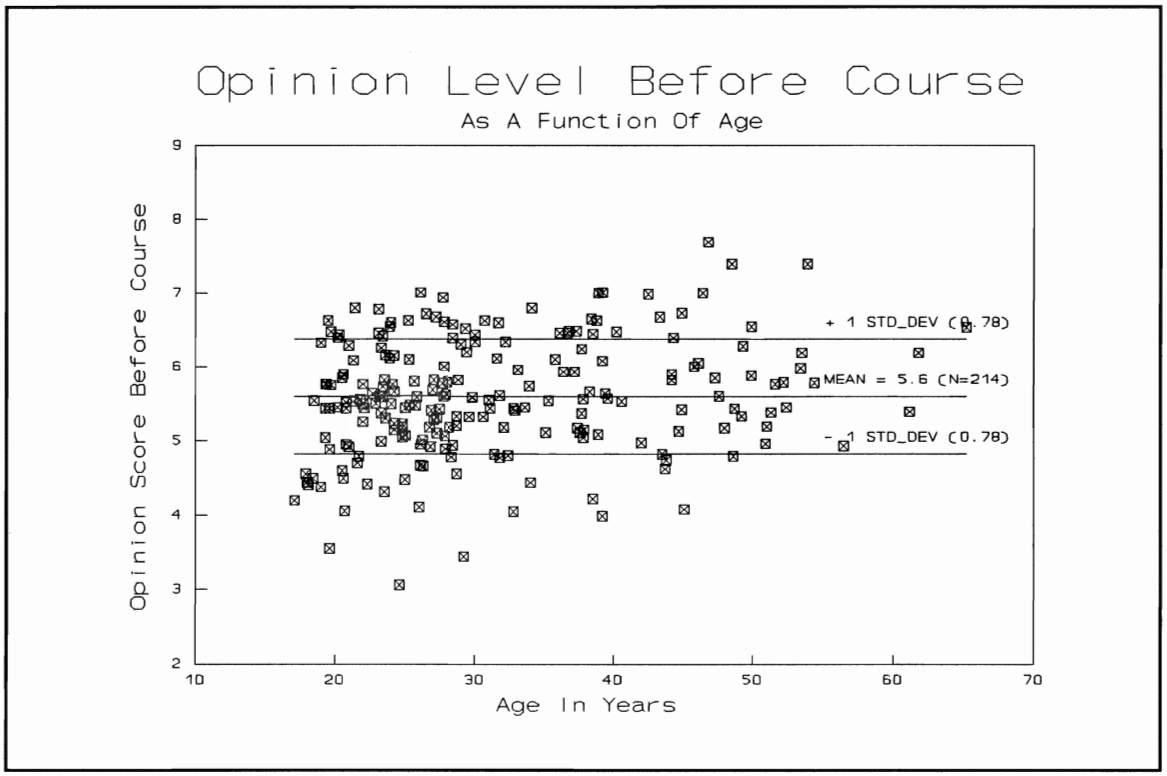

Figure 6 Before Course Opinion

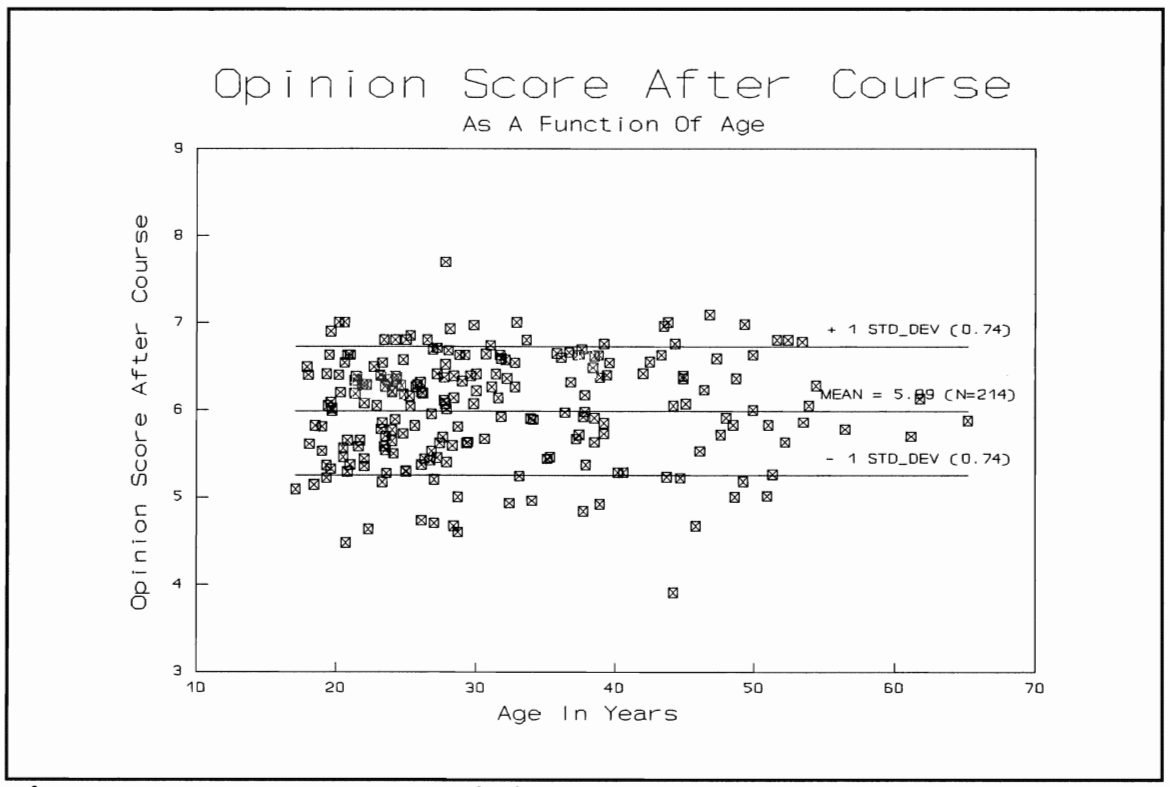

Figure 7 After Course Opinion

6 and 7 and Table 4.

The analysis of the data shows conclusively that no relationship exists between age and Knowledge Inventory scores, Behavioral Intentions or Opinion Survey scores. While the means of the test scores are clearly improved after taking the course, the age of the graduate was not an influencing factor as is clearly evident from Tables 2 to 4 and Figures 2 to 7. The data were not analyzed by regression statistics as any statistical correlation would be meaningless with respect to the effect of the IDEA course.

Analysis of Further Drinking/Driving Convictions

How do the Knowledge Inventory scores compare between the IDEA participants who had no further drinking/driving related convictions within three years of the course and those who did? The results are in Table 5.

Participants with no further convictions had higher pre-test scores and marginally lower post-test scores than participants with further convictions. The improvement in test score for those re-convicted was twice that of those who had no further convictions.

How do the Behavioral Intentions scores compare between the IDEA participants who had no further drinking/driving related convictions within 3 years of the course and those

TABLE 5

COMPARISON OF KNOWLEDGE SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
Pre-Knowledge Inventory Score					
Total	11.67	3.43	213		
No Conviction	11.80	3.43	199	0.52	<0.9
Recidivates	9.86	2.96	13	2.21	<0.05
Post-Knowledge Inventory Score					
Total	14.27	2.70	213		
No Conviction	14.23	2.73	199	0.21	<0.9
Recidivates	14.86	2.35	13	0.89	<0.4
Change in Knowledge Inventory Score					
Total	2.60	2.82	213		
No Conviction	2.43	2.78	199	0.84	<0.5
Recidivates	5.00	2.32	13	3.72	<0.01

TABLE 6

COMPARISON OF BEHAVIORAL INTENTIONS SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
Pre-Behavioral Intentions Score					
Total	31.19	10.96	213		
No Conviction	31.36	10.93	199	0.21	<0.9
Recidivates	28.86	11.50	13	0.73	<0.5
Post-Behavioral Intentions Score					
Total	35.46	10.56	213		
No Conviction	35.42	10.60	199	0.06	<0.99
Recidivates	36.14	10.32	13	0.24	<0.9
Change in Behavioral Intentions					
Total	4.27	10.60	213		
No Conviction	4.06	10.70	199	0.28	<0.9
Recidivates	7.29	8.88	13	1.22	<0.4

who did? The results are in Table 6.

The test scores of those participants who had no further convictions showed no significant difference from those of the participants with further drinking/driving related convictions.

How do the Opinion Survey scores compare between the IDEA participants who had no further drinking/driving related convictions within three years of the course and those who did? The results are in Table 7.

Table 7 shows those participants who reoffended have a slightly higher post course Opinion Survey. All other Opinion Survey measurements are not significant.

How do participants who have no further drinking/driving convictions compare to participants who have further convictions in MAST and NDP tests? The results are in Table 8.

Table 8 shows that no real difference exists between the group who did not reoffend on these alcohol dependence measures and the group that did.

Is the age of the participant a factor in predicting further drinking/driving related convictions? The results are in Table 9.

Table 9 shows that age is not a significant factor in predicting further drinking/driving related convictions.

Is the total number of convictions of the participant a factor in predicting further drinking/driving related

TABLE 7

COMPARISON OF OPINION SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
		Pre-Opinion Survey Score			
Total	5.60	0.78	213		
No Conviction	5.60	0.78	199	0.07	<0.99
Recidivates	5.55	0.87	13	0.21	<0.9
		Post-Opinion Survey Score			
Total	5.99	0.74	213		
No Conviction	5.97	0.75	199	0.39	<0.9
Recidivates	6.28	0.60	13	1.75	<0.2
		Change in Opinion Survey			
Total	0.39	0.94	213		
No Conviction	0.37	0.94	199	0.36	<0.9
Recidivates	0.73	0.96	13	1.28	<0.4

TABLE 8

COMPARISON OF MAST AND NDP SCORES BETWEEN THOSE PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH FURTHER DRINKING/DRIVING CONVICTIONS

Group	Mean	S.D.	df	t	p
		MAST Behavioral Intentions			
Total	7.30	4.54	213		
No Conviction	7.25	4.60	199	0.17	<0.9
Recidivates	8.07	3.67	13	0.75	<0.5
		Numeric Drinking Profile			
Total	5.08	2.13	213		
No Conviction	5.04	2.14	199	0.33	<0.9
Recidivates	5.78	1.80	13	1.40	<0.2

TABLE 9

COMPARISON OF AGES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
Total	31.61	10.45	213		
No Conviction	31.50	10.60	199	0.14	<0.9
Recidivates	33.09	8.21	13	0.65	<0.9

TABLE 10

COMPARISON OF TOTAL CONVICTION COUNT BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
Total	1.18	0.56	213		
No Conviction	1.07	0.33	199	2.85	<0.01
Recidivates	2.79	0.70	13	8.27	<0.001

convictions? The results are in Table 10.

The total number of convictions can be used to predict further drinking/driving related convictions. Participants with more than two convictions are much more likely to be reconvicted than are single offence participants.

Is the number of drinking/driving related convictions before the course a factor in predicting further drinking/driving related convictions? The results are in Table 11.

Table 11 shows that the number of previous drinking/driving related convictions cannot be used to predict future drinking/driving convictions.

Analysis of Further Convictions

How do the Knowledge Inventory scores compare between the IDEA participants who had no further convictions within three years of the course and those who did? The results are in Table 12.

The IDEA participants who had no further convictions had a smaller positive Knowledge Inventory change from those who did have any further convictions.

How do the behavioral intentions scores compare between the IDEA participants who had no further convictions within three years of the course and those who did? The results are in Table 13.

TABLE 11

COMPARISON OF BEFORE-COURSE DRINKING/DRIVING RELATED CONVICTION COUNT BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH FURTHER DRINKING/DRIVING RELATED CONVICTIONS

Group	Mean	S.D.	df	t	p
Total	1.03	0.20	213		
No Conviction	1.04	0.18	199	0.16	<0.9
Recidivates	1.00	0.39	13	0.30	<0.9

TABLE 12

COMPARISON OF CHANGE IN KNOWLEDGE SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CRIMINAL CODE CONVICTIONS

Group	Mean	S.D.	df	t	p
		Pre-Knowledge Inventory Score			
Total	11.67	3.43	213		
No Conviction	11.76	3.43	194	0.37	<0.9
Recidivates	10.74	3.35	18	1.19	<0.4
		Post-Knowledge Inventory Score			
Total	14.28	2.71	213		
No Conviction	14.23	2.73	194	0.26	<0.9
Recidivates	14.79	2.42	18	0.90	<0.4
		Change in Knowledge Inventory Score			
Total	2.60	2.82	213		
No Conviction	2.46	2.80	194	0.70	<0.5
Recidivates	4.05	2.70	18	2.28	<0.05

TABLE 13

COMPARISON OF CHANGE IN BEHAVIOUR SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CRIMINAL CODE CONVICTIONS

Group	Mean	S.D.	df	t	p
Pre-Behavioral Intentions Score					
Total	31.19	10.96	213		
No Conviction	31.48	10.95	194	0.36	<0.9
Recidivates	28.26	10.95	18	1.13	<0.4
Post-Behavioral Intentions Score					
Total	35.46	10.56	213		
No Conviction	35.49	10.63	194	0.04	<0.99
Recidivates	35.16	10.10	18	0.13	<0.9
Change in Behavioral Intentions Score					
Total	4.27	10.60	213		
No Conviction	4.02	10.66	194	0.34	<0.9
Recidivates	6.89	9.90	18	1.12	<0.4

The IDEA participants who had no further convictions had no significant difference in behavioral intentions scores from those who did have further convictions.

How do the Opinion Survey scores compare between the IDEA participants who had no further convictions within three years of the course and those who did? The results are in Table 14.

The IDEA participants who had no further convictions had no significant difference in Opinion Survey scores from those who did have further convictions.

How do participants who have no further convictions within three years of the course compare in MAST and NDP tests to those who had further convictions? The results are in Table 15.

Table 15 shows that no real difference in MAST scores exists between the group that did not reoffend on these alcohol dependence measures and the group that did reoffend. However, the difference in NDP scores is significant, with the reoffenders having a higher score.

Is the age of the participant a factor in predicting further convictions? The results are in Table 16.

Table 16 shows conclusively that age is not a significant factor.

Is the total number of convictions of the participant a factor in predicting further convictions? The results are in Table 17.

TABLE 14

COMPARISON OF CHANGE IN OPINION SCORES BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CRIMINAL CODE CONVICTIONS

Group	Mean	S.D.	df	t	p
		Pre-Opinion Survey Score			
Total	5.60	0.78	213		
No Conviction	5.61	0.79	194	0.16	<0.9
Recidivates	5.51	0.76	18	0.50	<0.9
		Post-Opinion Survey Score			
Total	5.99	0.74	213		
No Conviction	5.97	0.75	194	0.25	<0.9
Recidivates	6.12	0.67	18	0.86	<0.4
		Change in Opinion Survey Score			
Total	0.39	0.94	213		
No Conviction	0.37	0.94	194	0.33	<0.9
Recidivates	0.62	0.89	18	1.08	<0.4

TABLE 15

COMPARISON OF MAST AND NDP SCORES BETWEEN THOSE PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CONVICTIONS

Group	Mean	S.D.	df	t	p
		MAST Score			
Total	7.30	4.54	213		
No Conviction	7.24	4.63	194	0.19	<0.9
Recidivates	7.95	3.55	18	0.77	<0.5
		Numeric Drinking Profile			
Total	5.08	2.13	213		
No Conviction	5.01	2.15	194	0.48	<0.9
Recidivates	5.84	1.74	18	1.85	<0.1

TABLE 16

COMPARISON OF AGES BETWEEN THOSE PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CONVICTIONS

Group	Mean	S.D.	df	t	p
Total	31.61	10.45	213		
No Conviction	31.59	10.63	194	0.03	<0.99
Recidivates	31.82	8.63	18	0.10	<0.99

TABLE 17

COMPARISON OF TOTAL CONVICTIONS BETWEEN THOSE PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE PARTICIPANTS WITH ANY FURTHER CONVICTIONS

	Mean	S.D.	df	t	p
Total	1.18	0.56	213		
No Conviction	1.03	0.17	194	3.79	<0.001
Recidivates	2.74	0.73	18	8.99	<0.001

TABLE 18

COMPARISON OF BEFORE-COURSE DRINKING/DRIVING RELATED CONVICTION COUNT BETWEEN PARTICIPANTS WITH NO FURTHER CONVICTIONS AND THOSE WITH ANY FURTHER CONVICTIONS

	Mean	S.D.	df	t	p
Total	1.03	0.20	213		
No Conviction	1.03	0.17	194	0.13	<0.9
Recidivates	1.05	0.40	18	0.21	<0.9

The total number of convictions can be used to predict further drinking/driving related convictions as shown in Table 17. Participants with more than two convictions are much more likely to reoffend than are single offence participants.

Is the number of drinking/driving related convictions before the course a factor in predicting further convictions? The results are in Table 18.

The number of previous drinking/driving related convictions cannot be used to predict future convictions.

Search For Predictors

The "Success Factor" has been developed to provide a different view of the participant data than the foregoing comparisons of non reoffenders and recidivates. It was designed to enable regression analysis to be carried out on the entire population of participants. It is defined as the ratio of number of "Pre-course" convictions plus 1 and the number of "Post-course" convictions plus 1 multiplied by 10 (equation 1).

$$\text{Success factor} = 10 * \frac{(\text{Pre-course convictions} + 1)}{(\text{Post-course convictions} + 1)} \quad \text{....Eq.1}$$

The success factor measures the change in the

participant's conviction record. For example, high success factors indicate participants who have had many pre-course convictions but few post-course convictions. Conversely, a low success factor signifies few pre-course convictions and many post-course convictions.

Can regression analysis of success factor against Knowledge Inventory, Behavioral Intentions, Opinion Survey, MAST, or NDP scores, or participant age, predict change in the participant's conviction record?

Figures 8 through 16 show the results of the analysis.

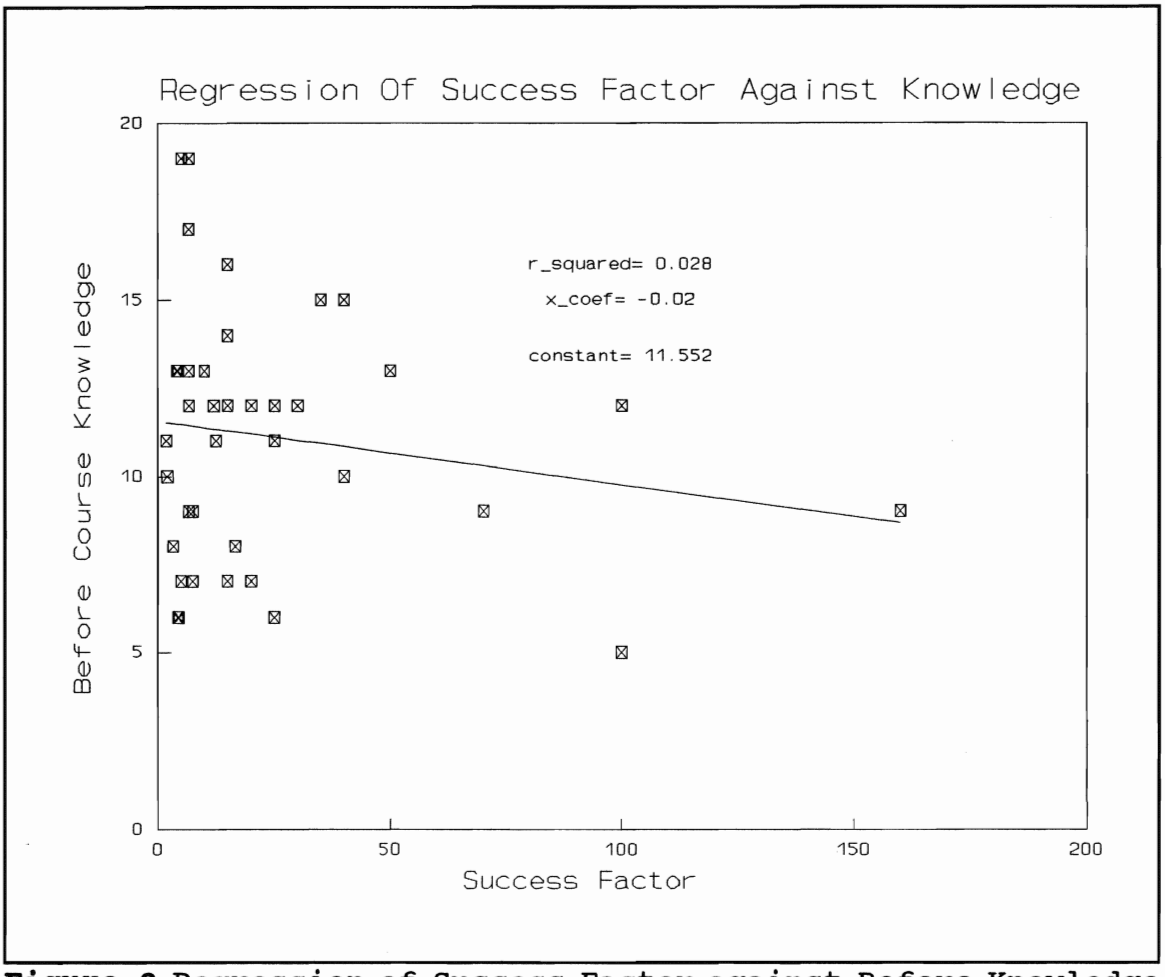

Figure 8 Regression of Success Factor against Before Knowledge

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between Pre-Knowledge Inventory and the success factor.

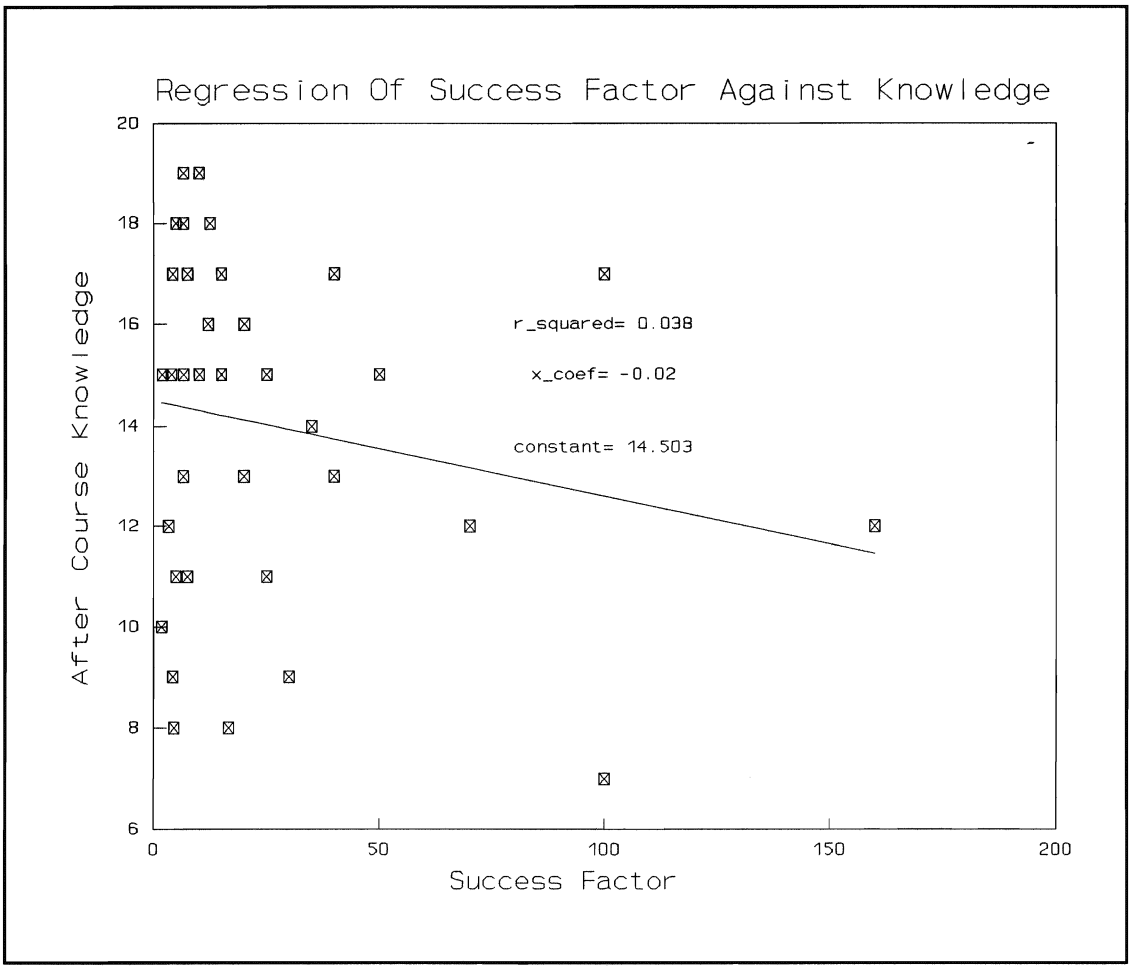

Figure 9 Regression of Success Factor against After Knowledge

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between post-Knowledge Inventory and the success factor.

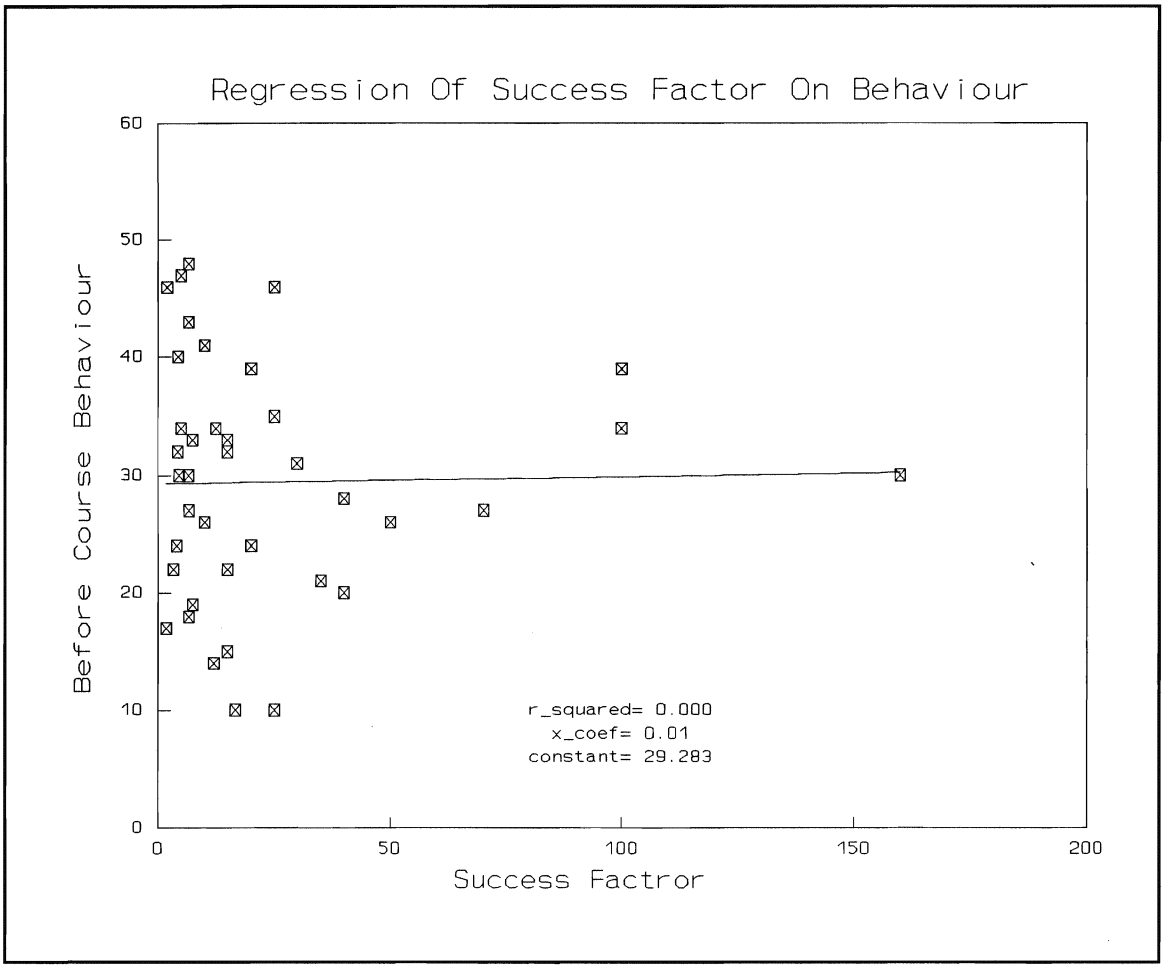

Figure 10 Regression of Success Factor against before Behaviour

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between Pre-Behavioral Intentions and the success factor.

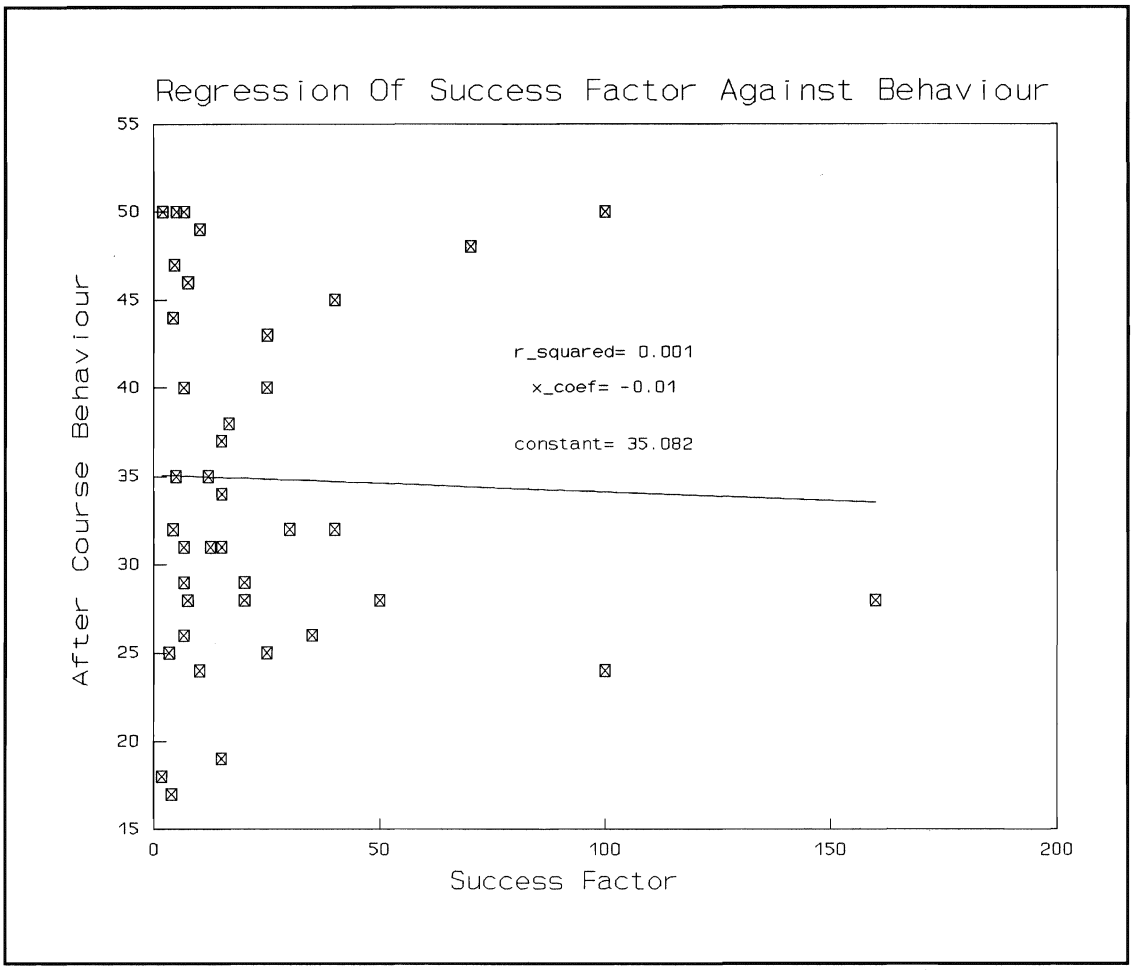

Figure 11 Regression of Success Factor against After Behaviour

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between post-Behavioral Intentions and the success factor.

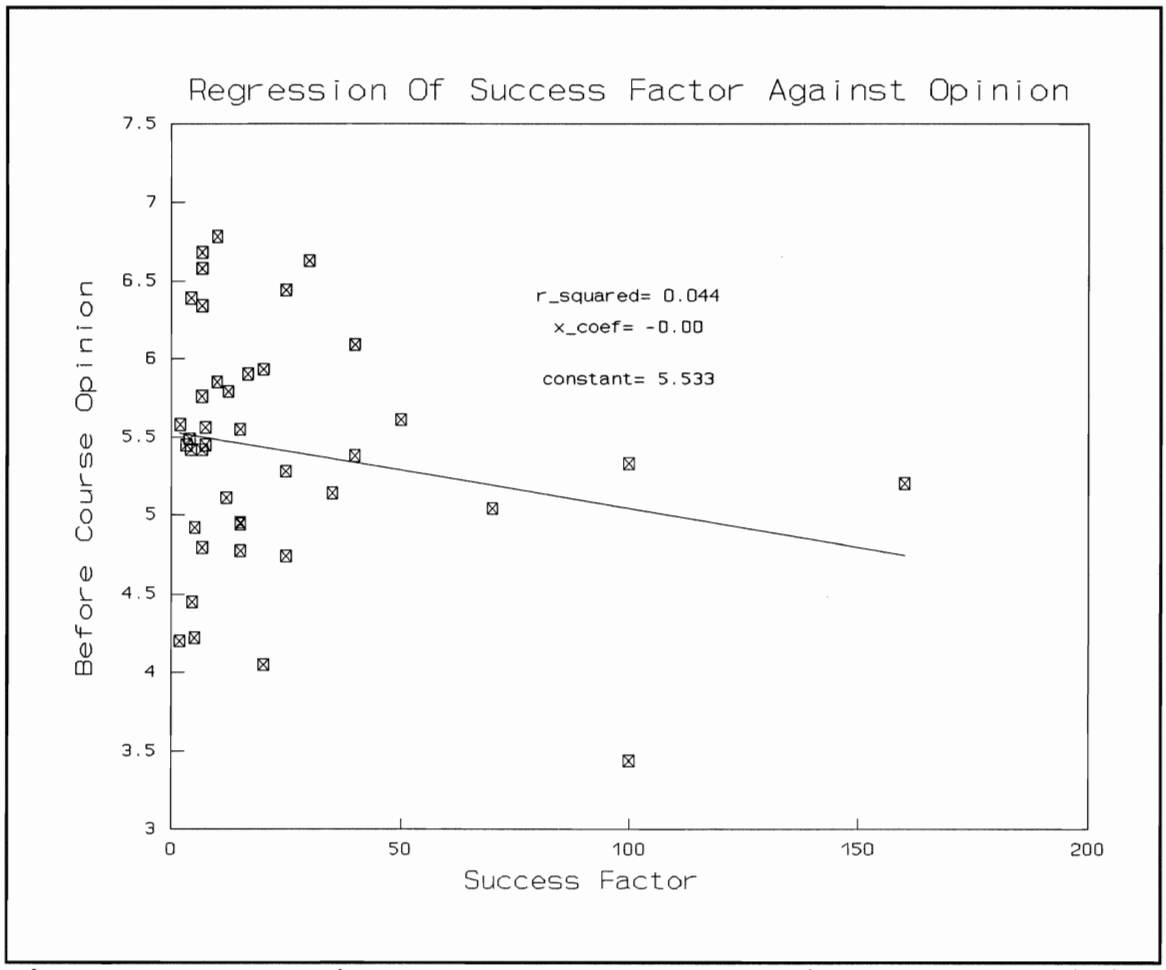

Figure 12 Regression of Success Factor against Before Opinion

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between Pre-Opinion Survey and the success factor.

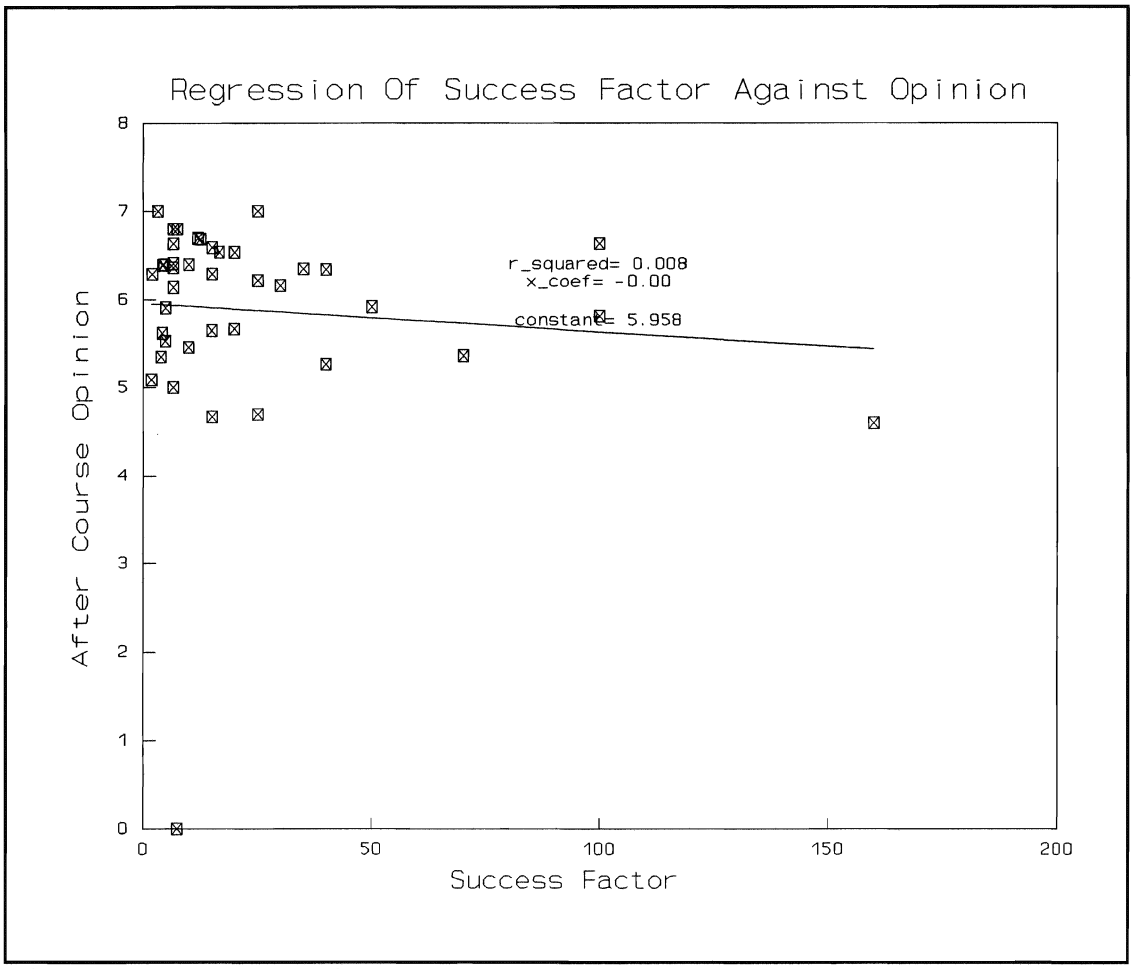

Figure 13 Regression of Success Factor against After Opinion

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between post-Opinion Survey and the success factor.

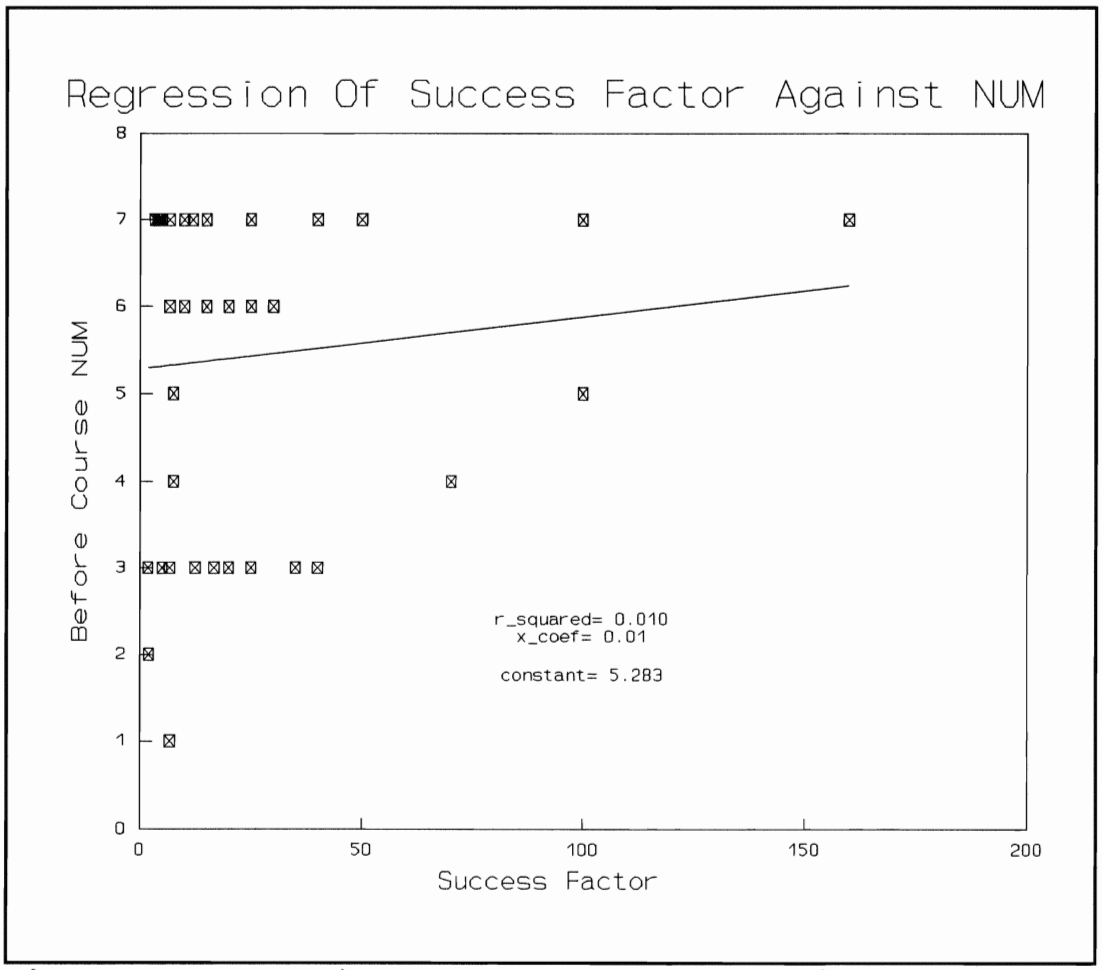

Figure 15 Regression of Success Factor against NDP.

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between numeric drinking profile and the success factor.

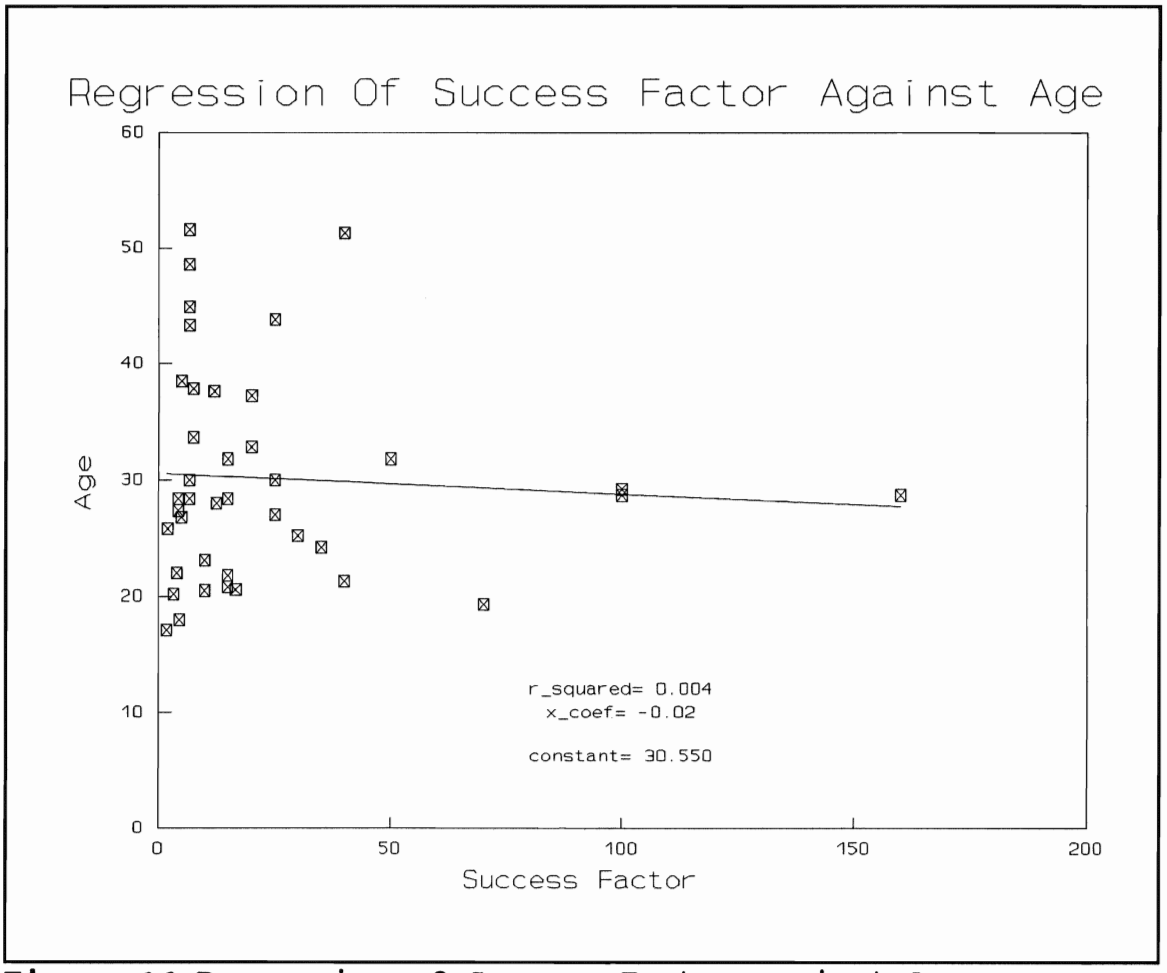

Figure 16 Regression of Success Factor against Age

The low slope (X coefficient) and low regression coefficient (R squared) indicate that no correlation exists between participant age and the success factor.

None of the variables, Knowledge Inventory, Behavioral Intentions, Opinion Survey, MAST, or NDP scores, or participant age, can be used as a predictive tool for change as measured by the success factor.

Summary

Research questions and the statistical answers to these questions have been presented in this chapter. The answers were developed by using descriptive statistics, analysis of variables, and regression analysis.

The results of this investigation are discussed in Chapter five.

CHAPTER FIVE: DISCUSSION

Introduction

In this chapter the results of data analyses presented in Chapter four are discussed and interpreted, followed by a section on implications for theory, for practice, and for further research. The final element in this chapter is the conclusions.

Discussion and Interpretation

The IDEA program has a beneficial effect on its graduates. The rate of recidivism was found to be only 14 percent after five years, compared to the provincial average of 58 percent. Given the profile of the clients who are referred to the program by the courts, the assessment of how this transformation actually came about could form a very insightful follow-up study. A starting point could be that the only factors found, in the present study, to correlate with recidivism are increasing knowledge and prior convictions. The former factor may be a major reason why many alcohol education programs do not decrease recidivism since many are based largely on imparting knowledge. One of the limitations of the data is that they deal only with the number of convictions, and not necessarily with number of offenses actually committed, many of which escape the

attention of the police.

Jack Mezirow writes, on transformative learning, that where learner and educator work together, distorted meaning perspectives can be changed. Since the IDEA program stresses such interaction, I believe that it affects transformative learning.

What further information could be gathered? Interviewing IDEA participants at several intervals following their graduation from the IDEA program might provide valuable information. However, these people, from my experience, are highly mobile and, therefore, are often not easy to locate. Possibly, the CPIC information system would have to be accessed again to determine current addresses. Dr. Robert Mann recounted his attempt, as a researcher, to follow up on 700 graduates of an alcohol education program. Using Ministry of Transportation records, he could locate only about one half of the people under study (personal communication, September 30, 1992).

Are the recidivists more impulsive than those who do not recidivate? If they are, these are important data which, to this point, are not capable of being measured in any of the tests currently employed in the IDEA program. It could be the missing significant factor but, for this study, no relevant data were available. Is it possible for another test instrument to measure impulsiveness to be added to the current set of instruments used to assess alcohol-related

offenders? Could an interdisciplinary team of psychologists and educators design such an instrument to add to the IDEA program and other alcohol education programs?

Questions for Future Research

A question for future research is how could more meaningful results be obtained? Perhaps a researcher could use a qualitative model to search for what the IDEA program graduates perceive to be the value, if any, of having attended the IDEA program. Individual graduates could be asked, preferably in a private interview, whether they are still engaging in the practice of driving after drinking. The respondents would have to be guaranteed anonymity; how many of us would admit to breaking the law otherwise? The following question ideas are examples of the approach that could be utilized during such an interview:

1. Has the participant's alcohol consumption changed since graduating from the IDEA program? In what way and by how much?
2. Does the graduate believe that his or her drinking is causing him/her problems? Why and in what way?
3. Would the participant agree to allow the interviewer to interview also his or her family members to determine what they think about the IDEA graduate's alcohol consumption and the effectiveness of the IDEA program

in changing the graduate's behaviour? (This could take some astute salesmanship on the part of the interviewer.)

4. What thoughts does the IDEA program graduate have as to why he or she has either continued to drink and drive or ceased this risky behaviour? Where does the graduate stand in relation to the behaviour goals and/or the suggestions of further help discussed at the exit interview at the end of the course?

Implications for Theory

Stephen Brookfield (1986) indicates that a necessary precondition of adult learning is the desire on the part of the learner to actively engage in learning. This assertion does not entirely describe the process of learning by the participants in the IDEA program. Certainly the IDEA program does engender this desire in some of the participants. However, critical reflection and behaviour change can be brought about without this pre-condition; coercion (court order) can also be effective.

Jack Mezirow's theory of transformative learning, which emphasizes the challenging of distorted assumptions, fits exactly with the thrust of the IDEA program. During the IDEA sessions we engage in a hybrid process, blending aspects of adult education practice and group therapy. To

change their behaviour, program participants need to gain more than objective knowledge about alcohol and its effects; they also need to examine how their abuse of alcohol affects not only their own lives, but also the lives of those closest to them - the totality of the destructiveness of the behaviour which ultimately brought on their conviction. With this new perspective, strengthened by increased awareness, they can reorder their behaviour to live a more productive, socially responsible life.

Implications for Practice

The recidivism rate among the 100 IDEA program graduates who graduated five years or more ago is 14 percent, a massive improvement over the Ontario provincial average, of 58 percent (Ontario Road Safety Annual Report 1990). This provincial statistic includes every drinking/driving conviction in the province, including both low-problem and high-problem offenders.

The IDEA program receives about 10 percent of the total offender population, mostly the "worst" offenders. These offenders have considerable alcohol tolerance as evidenced by their generally high BAC. Many have prior criminal convictions and/or were involved in serious alcohol-related traffic offenses. In view of these backgrounds, and the apparent success of the IDEA program with this group, one

has to believe that much might be accomplished if the IDEA program were mandated for all first offenders of drinking/driving offenses. They could be assisted earlier in their drinking "career", before this behaviour becomes habitualized.

From this study, prior convictions indicate a greater tendency to recidivate. Participation in this program, which cost approximately $450 a person in 1992, is most certainly more cost-effective than having offenders continue this anti-social behaviour. Even a "simple" drinking/driving arrest by a recidivist involves considerable cost - the police officer, the court, and incarceration, which has been estimated in 1992, to cost $140 a day. The recidivist must serve a 14-day sentence, at an incarceration cost, in 1992, of $1,960. These costs can easily be many times higher if property damage, injury, and/or loss of life are involved. In addition to these costs must be added the cost in human misery, which can be astronomical and extremely long-lasting.

Conclusions

The Halton IDEA program provides a highly successful alcohol education and awareness course. However, recidivism among the sample of its graduates used in this present study shows no correlation with the results garnered from the

various instruments used in the program.

A completely effective, standardized, alcohol education and awareness program has yet to be devised. Some convicted impaired drivers do not want to alter their behaviour, no matter what the cost. Since alcohol-related offenses constitute a major social problem, it behooves every educator involved in such programs for offenders to employ the most effective program available. Only by periodic, regular, in-depth interaction among these educators, at which experiences and programs are discussed and objectively evaluated, will the best program be evolved. Under these conditions standardization of alcohol education programs may be possible to the uniform benefit of all the participants in the various jurisdictions. I, for one, am whole-heartedly interested in locating any existing program which in whole or in part is superior to the IDEA program so that the course I teach will have the greatest influence in improving the behaviour of the participants.

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Appendix A:

IDEA Program Participant Survey

HALTON I.D.E.A.

impaired driver education awareness

PARTICIPANTS' SURVEY

This survey is almost the same as the one you filled out in the first week of I.D.E.A. This will help us better understand what you learned and any other changes you may have made during the course. Therefore we ask you to be completely honest and answer them to the best of your ability.

If you have forgotten your glasses or if for any other reason you cannot read as rapidly as you wish, please let us help you.

NAME _____

These first questions are about your feelings about your arrest. Please circle the answer that best describes how you feel now.

1. How much do you feel you are responsible for the events that led to your arrest?

   1. not at all responsible
   2. slightly responsible
   3. mostly responsible
   4. entirely responsible
   5. I do not know

2. How fair do you feel it was for you to be arrested?

   1. not at all fair
   2. slightly fair
   3. somewhat fair
   4. entirely fair
   5. I do not know

3. What are the chances of your being arrested on the same charges again?

   1. no chance
   2. very little chance
   3. 50 - 50 chance
   4. very great chance
   5. I do not know

4. How hard will it be for you to change your behaviour that led to your arrest?

   1. I do not need to change my behaviour
   2. very hard
   3. somewhat hard
   4. hard
   5. easy
   6. somewhat easy
   7. very easy
   8. I do not know

5. How valuable do you feel this programme has been for you?

   1. very valuable
   2. valuable
   3. slightly valuable
   4. not valuable
   5. not at all valuable

6. How often do you usually drink alcohol?

1. every day
2. 5 - 6 times a week
3. 3 - 4 times a week
4. 1 - 2 times a week
5. only on weekends
6. only on special occasions
7. it varies from week to week
8. binge drinking

7. Times when you drink alcohol, how much do you usually drink? (a drink is a bottle of beer, a glass of wine, a shot of liquor)

1. 1 - 2 drinks
2. 3 - 4 drinks
3. 5 - 6 drinks
4. 7 - 8 drinks
5. 9 - 10 drinks
6. 11 or more drink

8. Would you like help for a drinking problem?

1. I do not have a drinking problem
2. yes
3. no
4. I am not sure

9. Would you like help for any other problems you may have?

1. I do not have any problems
2. yes
3. no
4. I am not sure

The following questions can assess your drinking habits. Please answer each honestly by circling your answer.

10.	Do you feel you are a normal drinker?	yes	no
11.	Have you ever awakened the morning after some drinking the night before and found you could not remember part of the evening before?	yes	no
12.	Does your spouse, parent or other near relative ever worry or complain about your drinking?	yes	no
13.	Can you stop drinking without a struggle after one or two drinks?	yes	no
14.	Do you ever feel bad about your drinking?	yes	no
15.	Do your friends or relatives think you are a normal drinker?	yes	no
16.	Do you ever try to limit your drinking to certain times of the day or to certain places?	yes	no
17.	Are you always able to stop drinking when you want to?	yes	no
18.	Have you ever attended a meeting of Alcoholics Anonymous?	yes	no
19.	Have you gotten into fights, or arguments when drinking?	yes	no
20.	Has drinking ever created problems between you and your spouse, parent or other near relative?	yes	no
21.	Has your spouse, parent or other near relative ever gone to anyone for help about your drinking?	yes	no
22.	Have you ever lost friends because of drinking?	yes	no
23.	Have you ever gotten into trouble at work because of drinking?	yes	no
24.	Have you ever lost a job because of drinking?	yes	no
25.	Have you ever neglected your obligations, your family or your work for 2 or more days in a row because you were drinking?	yes	no

26. Do you drink before noon fairly often? yes no

27. Have you ever been told you have liver trouble? Cirrhosis? yes no

28. After heavy drinking, have you ever had Delirium Tremens (D.T.'s) or severe shaking? yes no

29. After heavy drinking, have you ever heard voices or seen things that weren't really there? yes no

30. Have you ever gone to anyone for help about your drinking? yes no

31. Have you ever been in a hospital because of drinking? yes no

32. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital? yes no

33. Have you ever been in a hospital to be " dried out" (detoxified) because of drinking? yes no

34. Have you ever been in jail, even for a few hours, because of drunk behaviour? yes no

The following questions are to see what you know about the effects of alcohol. Please circle only one answer.

35. Which will "sober you up" if you have been drinking and need to drive?

1. black coffee
2. a cold shower
3. time
4. vigorous exercise
5. I do not know

36. What happens to your sight when you drink alcohol?

1. blurring
2. reduced side vision (tunnel vision)
3. seeing double
4. all of the above
5. I do not know

37. An alcoholic is:

1. always drunk
2. unable to control how much he/she drinks
3. usually unemployed
4. often a "skid row" bum
5. I do not know

38. In what percentages of fatal crashes was alcohol involved?

1. 20%
2. 30%
3. 40%
4. 50%
5. I do not know

39. Which of the following describes the action of alcohol on the brain?

1. depressant
2. stimulant
3. both stimulant and depressant
4. neither stimulant and depressant
5. I do not know

40. Problem drinkers account for what percentage of drinking/driving crashes?

1. 5%
2. 50%
3. 70%
4. 90%
5. I do not know

41. Which driving task is harder to do after 5 or more drinks?

1. seeing the situation
2. deciding what to do in an emergency
3. taking action
4. all of the above
5. I do not know

42. As you drink more alcohol, your ability to drive:

1. steadily improves
2. improves at first, but then gets worse
3. may get better or worse, depending on other factors
4. steadily worsens
5. I do not know

43. If you drink 8 or more drinks during an evening your chances of having a crash are:

1. twice as likely than if you were not drinking
2. 5 times as likely
3. 10 times as likely
4. 15 times as likely
5. I do not know

44. Which of the following is true?

1. very many people drive with a BAC over .20%
2. in most fatal crashes, the driver's BAC is over .20%
3. drinking/driving crashes are under reported
4. all of the above
5. I do not know

45. With as few a 3 drinks you may:

1. think you can do things you cannot really do
2. believe you are performing better than you are
3. take greater risks
4. all of the above
5. I do not know

46. For each drink you have, before you drive you need to wait at least:

1. 15 minutes
2. 30 minutes
3. 1 hour
4. 2 hours
5. I do not know

47. Compared to crashes with no alcohol involved, alcohol related crashes are:

1. worse
2. the same
3. only worse if you are under 25 years of age
4. not as serious
5. I do not know

48. The effects of alcohol are most dangerous when:

1. speeding
2. driving at night
3 an emergency arises
4. driving in heavy traffic
5. I do not know

48. Which of the following is true?

1. a bottle of regular beer has the same amount of alcohol as a glass of wine
2. a glass of wine has the same amount of alcohol as a shot of liquor
3. a shot of liquor has the same amount of alcohol as a bottle of regular beer
4. all of the above
5. I do not know

50. Which of the following influences the effect of alcohol?

1. medication/other drugs
2. emotional state
3. physical health
4. all of the above
5. I do not know

We would like your opinion about the following statements. Please tell how you feel by circling either "A" for "agree" or "D" for "disagree" after each statement.

51. If you have just one or two drinks, you can drive just as well as if you had had none. A D

52. The experienced driver is rarely bothered by having a few drinks. A D

53. I would not feel safe riding with a driver who had consumed 8 drinks in a short time. A D

54. There is little harm in a drink before driving. A D

55. The law should limit the amount of alcohol served to a person who drives to a bar. A D

56. I would feel safe riding with a driver who is a recovering alcoholic. A D

57. Doctors should be required to report drivers who are alcoholic to the Ministry of Transportation and Communications. A D

58. No one should drink alcohol and then drive. A D

59. Often the relaxing effect of a drink can improve driving. A D

60. The relationship between alcohol and driving is exaggerated. A D

61. Some people can drink and then drive safely. A D

62. It's okay to drive after a few drinks, but it's not okay to drive after many drinks. A D

63. Some people can handle driving emergencies better after a few drinks. A D

64. A person convicted of impaired driving should have his license revoked. A D

65. Tests to determine the alcohol content of the blood should be required of all suspected drinking drivers. A D

66. After four drinks, some people's driving gets worse, but some people's driving is not affected. A D

67. Not enough arrests are currently made for impaired driving. A D

68. Conviction for impaired driving should carry a stiff fine. A D

69. Most drivers are more cautious after drinking. A D

70. Hosts and hostesses should limit the amount of alcohol served to guests who are driving. A D

The following questions ask how likely you would be to seek help for a drinking problem. Please think about each carefully before you answer.

Would you:

71. look in a phone book for places which provide treatment for alcohol problems

1. no
2. probably no
3. maybe
4. probably yes
5. yes

72. call one of the places in the phone book for an appointment

1. no
2. probably no
3. maybe
4. probably yes
5. yes

73. attend a meeting of Alcoholics Anonymous

1. no
2. probably no
3. maybe
4. probably yes
5. yes

74. seek help from an alcoholism clinic

1. no
2. probably no
3. maybe
4. probably yes
5. yes

75. seek help from the Addiction Research Foundation of Ontario

1. no
2. probably no
3. maybe
4. probably yes
5. yes

76. be willing to change my job (hours, place or type) if it interfered with my treatment

1. no
2. probably no
3. maybe
4. probably yes
5. yes

77. go to a trusted therapist

1. no
2. probably no
3. maybe
4. probably yes
5. yes

78. talk with recovering alcoholics to learn how they licked their problems

1. no
2. probably no
3. maybe
4. probably yes
5. yes

79. be willing to join group therapy sessions with others who have drinking problems

1. no
2. probably no
3. maybe
4. probably yes
5. yes

80. be willing to join group sessions with members of my family

1. no
2. probably no
3. maybe
4. probably yes
5. yes

How likely are you to do the following?

81. When something is bothering me, I talk it over with someone I trust.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

82. When my actions cause difficulties for me, I want to understand why I do what I do.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

83. When something is bothering me, it is easy to use words to describe how I feel about it.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

84. Once I understand the facts, I can make up my mind about how to act.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

85. I try to understand other people so my relationship with them will improve.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

86. When I realize I am doing something wrong or bad for me, I try to change.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

87. I have a realistic understanding of my strengths and weaknesses.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

88. I feel I can do something about what happens to me.

1. never
2. rarely
3. sometimes
4. frequently
5. almost all the time

Appendix B:

Participant Raw Data Files

Sex	Age	Knowledge		Opinion		Behaviour		MAST	NDI	Convictions			Drink/Drive Conv		
		before	after	before	after	before	after			total	before	after	total	before	after
-	----	--	--	----	----	--	--	--	-	---	---	---	---	---	---
M	19.2	17	19	4.48	5.29	21	35	5	3	1	1	0	1	1	0
f	13.2	15	16	6.33	5.81	44	39	6	3	1	1	0	1	1	0
M	18.0	18	15	6.11	6.22	23	35	5	3	1	1	0	1	1	0
M	20.2	14	16	4.95	4.73	27	31	6	7	1	1	0	1	1	0
f	21.4	10	14	5.10	5.45	31	28	14	6	2	1	1	2	1	1
M	17.5	12	15	5.58	6.80	29	46	5	4	1	1	0	1	1	0
f	24.0	15	16	5.59	6.07	38	39	6	6	1	1	0	1	1	0
M	15.1	6	9	4.92	5.37	18	35	4	4	1	1	0	1	1	0
M	32.8	14	11	5.68	6.69	46	49	2	2	1	1	0	1	1	0
M	22.3	7	15	5.18	6.93	18	42	14	6	1	1	0	1	1	0
f	31.0	15	19	5.47	6.85	25	44	3	1	1	1	0	1	1	0
M	29.1	13	16	6.42	6.27	47	50	5	2	1	1	0	1	1	0
M	44.2	7	11	4.22	5.91	47	50	6	3	3	1	2	3	1	2
M	26.4	10	13	4.06	4.48	29	26	6	6	1	1	0	1	1	0
f	44.1	7	11	6.65	6.61	33	47	10	7	2	1	1	2	1	1
M	27.1	18	17	6.80	6.38	46	48	9	7	1	1	0	1	1	0
f	45.5	13	13	5.76	6.80	48	50	20	7	1	1	0	1	1	0
M	54.3	9	15	4.79	5.00	43	50	5	7	3	1	2	3	1	2
f	32.9	13	17	6.68	6.41	37	41	9	6	1	1	0	1	1	0
M	26.2	13	15	5.85	5.46	41	49	21	7	1	1	0	1	1	0
M	42.9	7	13	5.93	5.67	39	29	5	3	1	1	0	1	1	0
M	62.2	6	9	4.93	5.78	28	40	2	2	1	1	0	1	1	0
M	42.1	12	16	5.93	5.97	32	39	7	6	1	1	0	1	1	0
M	25.4	14	16	5.75	5.99	48	39	6	6	1	1	0	1	1	0
M	16.0	10	11	5.25	5.44	32	36	3	1	1	1	0	1	1	0
M	25.2	8	9	4.88	5.32	41	30	3	2	1	1	0	1	1	0
f	31.5	12	15	5.04	6.17	33	44	2	1	1	1	0	1	1	0
M	22.2	12	15	6.58	6.14	18	26	3	3	3	1	2	3	1	2
M	19.1	11	14	6.10	6.04	27	42	5	3	1	1	0	1	1	0
M	51.1	12	13	5.13	5.22	50	47	18	7	1	1	0	1	1	0
M	30.2	11	16	5.05	6.18	50	45	2	1	1	1	0	1	1	0
M	12.1	13	17	5.54	5.82	12	21	6	6	1	1	0	1	1	0
M	29.0	13	19	6.78	6.40	26	24	6	6	3	1	2	3	1	2
M	32.6	11	15	5.79	5.82	40	50	17	6	1	1	0	1	1	0
M	23.0	11	10	4.20	5.09	17	18	5	3	1	1	0	1	1	0
M	24.3	17	18	6.63	6.64	31	36	5	2	1	1	0	1	1	0
M	41.2	14	15	6.10	6.65	36	39	4	3	1	1	0	1	1	0
M	19.4	10	15	5.58	6.29	46	50	4	2	3	1	2	3	1	2
M	48.4	13	17	4.97	6.42	40	50	5	5	1	1	0	1	1	0
M	13.0	14	14	5.77	6.05	28	29	11	7	1	1	0	1	1	0
M	26.0	16	18	4.50	7.00	22	46	11	6	1	1	0	1	1	0
M	32.6	11	12	5.76	5.69	39	46	15	7	1	1	0	1	1	0
M	33.8	13	18	4.56	5.00	21	22	2	6	1	1	0	1	1	0
M	33.4	6	9	6.39	6.39	40	44	7	7	1	1	0	1	1	0
M	47.5	9	14	6.99	6.55	40	48	5	7	1	1	0	1	1	0
M	31.7	14	16	5.18	5.42	27	26	8	6	1	1	0	1	1	0
M	34.0	12	14	6.31	6.33	50	42	8	7	1	1	0	1	1	0
M	27.3	12	16	4.42	4.63	31	22	13	7	1	1	0	1	1	0
M	24.3	15	15	5.76	5.22	49	45	12	7	1	1	0	1	1	0
M	36.1	13	14	5.44	6.26	48	48	14	7	1	1	0	1	1	0
M	37.8	13	14	5.44	6.26	48	48	14	7	1	1	0	1	1	0
M	30.7	16	19	5.47	6.26	19	27	6	7	1	1	0	1	1	0
M	38.1	8	9	5.96	5.24	40	41	10	7	1	1	0	1	1	0
M	28.6	17	15	6.16	5.27	46	43	19	7	1	1	0	1	1	0
M	58.5	12	12	6.19	5.86	42	50	6	7	1	1	0	1	1	0
M	21.1	13	17	5.42	5.62	32	32	12	7	4	1	3	3	1	2
M	26.3	13	16	4.79	5.65	15	35	4	2	1	1	0	1	1	0

Sex	Age	Knowledge		Opinion		Behaviour		MAST	NDI	Convictions			Drink/Drive Conv		
		before	after	before	after	before	after			total	before	after	total	before	after
-	----	--	--	----	----	--	--	--	-	---	---	---	---	---	---
M	24.4	6	8	4.45	6.40	30	47	12	7	1	1	0	1	1	0
M	44.1	18	17	5.64	6.40	37	45	2	2	1	1	0	1	1	0
f	28.2	14	15	5.30	6.34	24	26	6	5	1	1	0	1	1	0
M	25.9	12	14	5.52	6.19	32	50	12	7	1	1	0	1	1	0
M	27.3	17	17	5.63	6.49	28	36	14	7	1	1	0	1	1	0
M	38.7	15	14	6.80	5.89	25	23	3	6	1	1	0	1	1	0
M	42.4	14	17	5.37	4.84	24	34	17	7	1	1	0	1	1	0
M	33.4	7	15	4.94	4.67	15	19	11	7	1	1	0	1	1	0
M	27.0	13	15	5.49	5.35	24	17	13	7	3	1	2	1	1	0
M	26.3	15	17	6.09	6.34	20	32	7	7	1	1	0	1	1	0
M	54.8	7	13	5.88	6.63	44	47	14	7	1	1	0	1	1	0
M	35.6	15	13	5.32	5.67	27	25	6	7	1	1	0	1	1	0
M	24.5	15	16	6.63	6.63	21	33	7	7	1	1	0	1	1	0
M	37.8	12	16	4.05	6.54	24	28	9	6	1	1	0	1	1	0
M	50.9	13	17	5.82	3.91	29	26	6	6	1	1	0	1	1	0
M	36.8	15	14	4.82	6.41	19	24	10	6	1	1	0	1	1	0
M	34.6	11	18	5.79	6.68	34	31	4	3	1	1	0	1	1	0
M	30.4	14	16	5.07	5.30	32	27	4	3	1	1	0	1	1	0
M	29.5	11	11	5.75	5.50	38	35	5	7	1	1	0	1	1	0
M	54.7	12	12	6.28	6.98	42	50	19	7	1	1	0	1	1	0
M	44.2	10	13	6.08	6.76	21	34	4	6	1	1	0	1	1	0
M	28.4	5	10	5.72	5.58	26	33	18	7	1	1	0	1	1	0
f	22.9	16	16	4.56	6.49	38	38	7	6	1	1	0	1	1	0
M	25.5	14	15	4.60	5.56	20	30	6	6	1	1	0	1	1	0
M	23.8	9	15	5.44	6.41	17	33	4	3	1	1	0	1	1	0
M	31.3	19	18	4.92	5.53	34	35	4	7	2	1	1	1	1	0
M	43.3	12	15	5.08	4.92	10	11	5	4	1	1	0	1	1	0
M	39.0	14	14	4.80	4.93	33	22	6	6	1	1	0	1	1	0
M	45.9	8	17	7.01	5.85	39	49	11	6	1	1	0	1	1	0
M	33.3	16	12	6.72	6.80	50	46	14	7	1	1	0	1	1	0
M	61.2	14	15	5.78	6.28	47	47	3	1	1	1	0	1	1	0
F	57.3	11	11	4.96	5.01	40	45	6	6	1	1	0	1	1	0
M	44.3	12	15	6.24	5.92	15	13	4	2	1	1	0	1	1	0
M	52.4	15	10	6.00	4.67	43	30	11	7	1	1	0	1	1	0
M	29.9	18	17	4.99	5.17	34	27	9	6	1	1	0	1	1	0
M	30.8	15	17	5.23	5.89	22	32	5	3	1	1	0	1	1	0
M	35.6	13	16	5.82	6.63	37	41	1	1	1	1	0	1	1	0
M	67.8	8	14	5.39	5.70	30	34	10	7	1	1	0	1	1	0
M	44.5	13	17	5.15	5.37	45	37	14	7	1	1	0	1	1	0
M	26.3	8	17	3.55	6.90	11	40	9	6	1	1	0	1	1	0
M	53.2	16	17	7.69	7.09	34	43	4	4	1	1	0	1	1	0
M	59.9	17	17	5.98	6.78	20	14	8	7	1	1	0	1	1	0
M	29.9	13	17	5.81	5.54	33	50	4	3	1	1	0	1	1	0
M	36.4	19	19	6.34	6.41	30	40	1	6	1	1	0	1	1	0
M	49.7	17	18	6.68	6.63	27	31	3	1	1	1	0	1	1	0
F	33.7	14	13	5.31	6.71	16	38	5	2	1	1	0	1	1	0
M	32.7	16	17	4.78	5.59	24	46	5	2	1	1	0	1	1	0
M	49.3	5	11	6.73	6.39	48	46	3	3	1	1	0	1	1	0
M	40.9	17	18	6.46	6.60	36	38	22	7	1	1	0	1	1	0
M	24.8	15	14	6.44	6.20	23	38	8	6	1	1	0	1	1	0
M	27.7	5	10	5.37	5.85	34	42	7	7	1	1	0	1	1	0
M	37.0	8	15	4.44	4.96	28	30	2	2	1	1	0	1	1	0
M	29.1	8	14	7.01	6.20	24	50	15	7	1	1	0	1	1	0
M	36.9	14	15	5.74	5.90	37	50	0	1	1	1	0	1	1	0
M	39.8	16	18	6.49	6.32	14	14	8	7	1	1	0	1	1	0
M	41.5	10	12	6.45	5.63	50	44	10	7	1	1	0	1	1	0
M	26.5	13	14	4.32	5.70	48	28	9	7	1	1	0	1	1	0

Sex	Age	Knowledge		Opinion		Behaviour		MAST	NDI	Convictions			Drink/Drive Conv		
		before	after	before	after	before	after			total	before	after	total	before	after
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M	34.9	16	17	4.77	6.59	33	34	11	7	3	2	1	3	2	1
M	22.0	7	9	4.38	5.53	35	31	10	6	1	1	0	1	1	0
M	31.2	8	15	5.06	6.52	42	35	7	6	1	1	0	1	1	0
M	47.5	18	16	5.90	6.05	44	41	3	1	1	1	0	1	1	0
M	35.1	11	10	6.60	6.63	18	29	6	5	1	1	0	1	1	0
M	23.0	6	15	5.44	6.09	33	38	3	2	1	1	0	1	1	0
M	49.4	9	10	6.05	5.53	29	28	11	6	1	1	0	1	1	0
M	27.3	11	15	6.55	6.21	29	28	5	3	1	1	0	1	1	0
M	47.1	6	15	4.62	5.23	28	29	0	1	1	1	0	1	1	0
M	26.5	8	14	6.46	6.39	50	34	3	4	1	1	0	1	1	0
M	56.9	7	14	7.39	6.05	25	46	17	6	1	1	0	1	1	0
M	21.1	11	12	4.41	5.61	30	42	7	6	1	1	0	1	1	0
M	28.2	12	9	6.63	6.16	31	32	6	6	1	1	0	1	1	0
M	54.3	10	13	5.38	5.26	28	45	4	3	1	1	0	1	1	0
M	50.6	17	18	5.60	5.72	27	34	2	6	1	1	0	1	1	0
M	38.7	8	11	5.54	5.46	32	28	8	6	1	1	0	1	1	0
M	35.1	12	11	5.18	6.57	25	46	4	3	1	1	0	1	1	0
M	29.3	8	9	4.66	5.44	24	10	1	1	1	1	0	1	1	0
M	51.5	9	9	7.39	5.83	43	19	1	2	1	1	0	1	1	0
M	41.7	8	14	7.00	6.37	30	34	7	7	2	1	1	2	1	1
M	26.8	8	15	5.49	5.77	18	18	3	3	1	1	0	1	1	0
M	30.5	8	12	5.59	6.37	8	30	11	7	1	1	0	1	1	0
M	26.0	12	17	6.26	6.54	28	31	10	6	1	1	0	1	1	0
M	23.6	11	16	5.52	6.63	32	40	10	7	1	1	0	1	1	0
M	50.0	5	15	5.85	6.59	10	36	9	6	1	1	0	1	1	0
M	36.4	7	17	5.45	6.80	19	46	4	5	4	1	3	4	1	3
M	32.6	6	13	5.58	6.97	9	10	9	7	1	1	0	1	1	0
M	27.3	15	14	5.14	6.35	21	26	5	3	2	2	0	2	2	0
M	46.6	6	15	4.74	7.00	10	25	13	7	2	1	1	2	1	1
M	26.1	9	15	5.50	6.05	20	30	15	7	1	1	0	1	1	0
M	42.8	4	5	6.48	5.28	42	29	6	7	1	1	0	1	1	0
F	51.8	5	15	5.33	5.18	47	50	2	3	1	1	0	1	1	0
M	31.9	16	16	6.52	5.62	40	47	5	7	1	1	0	1	1	0
M	23.2	10	10	5.90	6.54	10	38	5	3	4	2	2	2	2	0
M	35.5	10	16	5.41	7.00	10	20	0	2	1	1	0	1	1	0
M	30.5	11	15	5.62	5.40	31	30	7	7	1	1	0	1	1	0
M	49.0	15	19	7.00	6.23	47	10	3	2	1	1	0	1	1	0
M	30.5	8	15	4.89	6.01	34	44	9	7	1	1	0	1	1	0
M	52.5	6	15	5.17	5.91	15	42	1	1	1	1	0	1	1	0
f	26.5	14	18	5.75	6.08	42	42	7	6	1	1	0	1	1	0
M	28.7	14	15	6.15	6.38	50	50	2	1	1	1	0	1	1	0
f	28.7	12	12	5.65	6.80	23	31	8	7	1	1	0	1	1	0
M	44.1	10	14	5.57	6.54	31	43	6	6	1	1	0	1	1	0
M	48.0	12	13	4.82	6.96	35	50	11	7	1	1	0	1	1	0
M	23.0	12	10	4.50	5.14	31	39	4	2	1	1	0	1	1	0
f	32.3	13	16	6.94	6.11	38	40	2	1	1	1	0	1	1	0
M	41.8	14	15	6.49	6.63	22	30	2	2	1	1	0	1	1	0
M	49.4	12	15	5.42	6.36	30	29	9	7	2	1	1	1	1	0
M	30.7	12	17	5.01	6.19	10	15	11	7	1	1	0	1	1	0
M	30.5	9	8	4.11	6.32	19	35	9	6	1	1	0	1	1	0
M	65.8	5	11	6.19	6.13	11	39	4	5	1	1	0	1	1	0
M	23.7	13	15	6.48	6.02	47	48	1	2	1	1	0	1	1	0
M	24.8	16	17	5.44	5.29	27	33	4	2	1	1	0	1	1	0
M	40.7	13	15	6.46	6.66	50	50	16	7	1	1	0	1	1	0
M	31.0	12	15	5.28	4.70	35	43	7	6	2	1	1	1	1	0
M	28.5	12	18	3.06	6.28	13	18	3	6	1	1	0	1	1	0
M	43.2	5	10	3.99	5.73	23	11	5	5	1	1	0	1	1	0

Sex	Age	Knowledge		Opinion		Behaviour		MAST	NDI	Convictions			Drink/Drive Conv		
		before	after	before	after	before	after			total	before	after	total	before	after
M	25.6	8	13	4.70	5.58	32	49	10	7	1	1	0	1	1	0
f	28.0	15	15	6.60	5.64	38	40	2	1	1	1	0	1	1	0
M	33.9	11	11	6.44	6.22	46	40	4	3	1	1	0	1	1	0
M	32.9	12	17	3.44	6.63	34	50	7	7	2	2	0	2	2	0
M	41.5	9	11	5.56		33	28	5	4	1	1	0	1	1	0
M	26.9	13	12	5.58	5.78	38	34	4	2	1	1	0	1	1	0
M	23.0	9	12	5.04	5.36	27	48	5	4	2	2	0	2	2	0
M	25.5	14	15	5.55	6.29	32	37	10	6	2	2	0	2	2	0
f	29.8	7	6	4.67	5.37	16	14	10	6	1	1	0	1	1	0
M	28.5	14	15	5.22	6.57	26	22	6	5	1	1	0	1	1	0
M	38.8	10	12	5.11	5.44	48	12	2	2	1	1	0	1	1	0
M	53.6	15	16	6.55	6.00	28	27	12	7	1	1	0	1	1	0
M	34.7	6	11	5.55	6.74	40	48	22	7	1	1	0	1	1	0
M	32.8	9	12	5.20	4.60	30	28	6	7	2	2	0	2	2	0
M	42.8	11	14	6.63	6.63	26	47	12	6	1	1	0	1	1	0
M	69.5	11	15	6.54	5.88	44	48	1	1	1	1	0	1	1	0
M	28.8	9	12	5.18	5.73	33	33	14	7	1	1	0	1	1	0
M	24.8	12	15	4.95	5.65	22	31	10	7	1	1	0	1	1	0
M	52.7	11	13	5.43	6.36	49	46	7	7	1	1	0	1	1	0
M	55.1	15	15	5.19	5.83	28	20	9	7	1	1	0	1	1	0
M	41.7	8	12	5.17	5.72	10	10	8	7	1	1	0	1	1	0
M	48.4	13	15	6.40	6.76	36	42	2	2	1	1	0	1	1	0
M	56.3	14	15	5.79	5.63	39	43	7	7	1	1	0	1	1	0
M	25.1	14	14	6.29	6.63	38	35	13	7	1	1	0	1	1	0
M	36.3	13	13	6.34	6.36	28	28	5	3	1	1	0	1	1	0
M	42.4	15	16	5.66	6.48	40	48	3	4	1	1	0	1	1	0
M	35.9	13	15	5.61	5.92	26	28	11	7	1	1	0	1	1	0
M	26.2	15	15	5.43	6.29	29	30	5	3	1	1	0	1	1	0
M	35.7	11	15	6.11	6.14	45	37	6	3	1	1	0	1	1	0
M	29.1	6	13	5.44	6.80	18	40	8	7	1	1	0	1	1	0
M	41.7	12	16	5.11	6.69	14	35	11	7	3	0	3	2	0	2
M	33.5	16	17	6.20	5.63	24	23	11	7	1	1	0	1	1	0
M	24.3	15	14	6.40	6.40	50	41	4	5	1	1	0	1	1	0
M	32.2	5	7	5.33	5.81	39	24	5	5	2	2	0	2	2	0
M	30.5	8	15	5.81	5.20	23	26	3	6	1	1	0	1	1	0
M	30.4	12	17	5.40	5.95	34	23	4	5	1	1	0	1	1	0
M	31.3	13	17	6.61	7.70	26	44	9	7	1	1	0	1	1	0
M	33.2	13	15	5.32	6.39	35	33	3	2	1	1	0	1	1	0
M	44.1	15	17	5.53	5.28	32	38	10	7	1	1	0	1	1	0
F	55.9	10	11	5.45	6.80	50	48	9	7	1	1	0	1	1	0
M	23.8	8	12	5.45	7.00	22	25	7	7	2	1	1	2	1	1
M	48.6	13	14	4.08	6.07	28	21	8	7	1	1	0	1	1	0
M	31.3	12	17	6.00	6.07	14	47	7	7	1	1	0	1	1	0

Appendix C:

Statistical Summary

Variable	Range	Minimum Score	Maximum Score	Average Score	Standard Deviation	Number Of Responses
Adult or Young Offender	-	-	-	-	-	214
Sex	-	-	-	-	-	214
Birthdate	-	-	-	-	-	214
Course age	48.1	17.1	65.2	31.6	10.4	214
Before Knowledge	16.0	3.0	19.0	11.6	3.4	214
After Knowledge	15.0	4.0	19.0	14.3	2.7	214
Before Opinion	4.6	3.1	7.7	5.6	0.8	214
After Opinion	7.7	0.0	7.7	6.0	0.7	214
Before Behaviour	42.0	8.0	50.0	31.2	10.9	214
After Behaviour	40.0	10.0	50.0	35.5	10.5	214
Before MAST	22.0	0.0	22.0	7.3	4.5	214
After MAST	23.0	0.0	23.0	2.4	4.5	214
Before NUM	6.0	1.0	7.0	5.1	2.1	214
Total Convictions (+/- 3 Yr)	14.0	1.0	15.0	2.0	2.3	214
Before Convictions	14.0	1.0	15.0	1.5	1.5	214
After Convictions	10.0	0.0	10.0	0.5	1.5	214
Total Driving Convictions	6.0	1.0	7.0	1.4	1.0	214
Before Course Drug Convictions	6.0	1.0	7.0	1.2	0.7	214
After Course Drug Convictions	4.0	0.0	4.0	0.2	0.6	214

Total +/- 3 Yr Convictions	3.0	1.0	4.0	1.2	0.6	214
3 Yr Before	2.0	0.0	2.0	1.0	0.2	214
3 Yr After	3.0	0.0	3.0	0.1	0.5	214
Driving +/- 3 Yr Convictions	3.0	1.0	4.0	1.1	0.5	214
Driving 3 Yr Before	2.0	0.0	2.0	1.0	0.2	214
Driving 3 Yr After	3.0	0.0	3.0	0.1	0.4	214